BULLETIN

OF THE

AMERICAN GEOGRAPHICAL SOCIETY.

Vol. XL 1908. No. 8

THE DRAKE MEDAL.

BY

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The Drake Medal* has recently been struck in honour of Sir Francis Drake, famous as the first English circumnavigator of the globe, and in commemoration of his first landing upon the northwest coast of America in 1579, when, on the 17th day of June, he anchored and landed near the 38th parallel of north latitude, on the shore of the bay since known by his name, and there took possession of the country in the name of Queen Elizabeth, calling it, after Old England, "Nova Albion," and thus founded the New England of the Pacific Coast, more than forty years before the landing of the Pilgrims at Plymouth Rock, in Massachusetts Bay.

When Drake thus "discovered" the northwest coast of America, he did not find what he was, perhaps, more earnestly seeking, a northeasterly passage, or open sea, by which he might sail from the Pacific to the Atlantic, and, so, home to England. If he had found the hoped-for channel, or if by any means he could have had his own way, he would have gladly circumnavigated the American continent, without continuing his "world encompassing" expedition around the globe in the *Golden Hinde;* and, but for the exigencies of his marvellous voyage, which compelled him to repair and refit his ship, and, for that purpose, to seek a convenient port

* This is the third medal of the series issued by the American Numismatic Society designed to commemorate most notable events in the history of the country, or persons who have rendered distinguished services in the discovery or development of America.

The first medal of this series was issued (1904) in honour of Americus Vespucius, and to commemorate the achievements of the early discoverers on the Atlantic coast of the new continent, to which the name "America" was given by the German cartographer Martin Waldseemüller, in 1507.

The second medal was issued (1906) in honour of John Paul Jones, and to commemorate the event of the removal of his remains from France to America.

on the west coast, far to the north, beyond the reach of the outraged and revengeful Spaniards, whose treasure-laden galleons he had piratically plundered off the west coast of South America, it is reasonable to believe that Drake, who was not on a voyage of discovery, never would have found occasion to explore the northwest coast of America, nor ever would have sought a landing-place upon that shore.

To what degree of north latitude did Drake's exploration actually reach, and precisely at what point on the coast did he make his historic landing, have long been vexed questions, much discussed in years gone by, and only conclusively determined—certainly, at least, as to the landing-place—by the thorough researches of Professor George Davidson, Ph.D., Sc.D., of the United States Coast and Geodetic Survey, as set forth by him in a paper, read before the California Historical Society in March, 1889, and published by that Society in 1890.

This valuable contribution to historical record is entitled "Identification of Francis Drake's Anchorage on the Coast of California in the Year 1579." It is a carefully considered statement of results derived by Professor Davidson from notes of geographical study and observation, gathered during his personal experience on the Pacific Coast since 1850. His printed pamphlet contains 58 pages, with fifteen graphic illustrations, mostly copies of old maps or charts, some of them thus made public for the first time.* This paper is now practically out of print, as the San Francisco fire, in April, 1906, destroyed nearly all of the formerly available remainder. The writer is indebted to Professor Davidson for the opportunity to review the last and only copy of the paper remaining in his possession, and to draw from it for this present purpose the following data. In the beginning of his paper Professor Davidson writes:

"WHY THIS PAPER HAS BEEN WRITTEN.

"During the last few years I have been writing the fourth edition of the Coast Pilot of California, Oregon, and Washington, and in some of my unofficial hours I have been gathering the notes of my geographical experience upon this coast since 1850.

"I have condensed part of them in a paper† where the par-

* These illustrations are appended to Mr. Hague's paper, by kind permission of the California Historical Society.—EDITOR BULLETIN.

† "An examination of some of the early Voyages of Discovery and Exploration on the Northwest Coast of America, from 1539 to 1603, by Prof. George Davidson, A.M., Ph.D., Assistant U. S. Coast and Geodetic Survey. Appendix No. 7 of the Annual Report of the Superintendent of the U. S. Coast and Geodetic Survey, 1886."

ticular object I had in view was the identification of the landfalls of Cabrillo and Ferrelo. In that research the question of Francis Drake's second anchorage on this Coast naturally presented itself for solution; and the general result is therein stated.

"In the first two or three years of my work upon the Pacific seaboard, with comparatively little experience and a limited acquaintance with the early discoveries, I believed that Drake entered the Bay of San Francisco. The work upon the different editions of the Coast Pilot impelled me to examine the localities mentioned by the old Navigators; to weigh carefully their simple language, the circumstances attending their descriptions, whether they were in detail or in broad generalizations, at what season of the year they were made, etc.; and, by endeavouring to put myself in their places, to follow their explorations day by day.

"I have carefully studied the narratives of Drake's voyage, and the manuscript charts copied from his sketches, or drawn from his personal descriptions; have located his first anchorage; know every foot of the shore he coasted; have tried to see it with his eyes; have sailed the U. S. Coast Survey Brig *Fauntleroy* over the very track he pursued; have conned the shore-line, and the crest-line, and the landfall from seaward, under varying conditions of weather; have surveyed Bodega Head, and anchored in Bodega Bay; have been over every rod of Point Reyes Head several times, and have frequently anchored in Drake's Bay in pleasant weather and under stress of weather, even as lately as last year (1886). I have visited the South and North Farallones, measured their heights, and studied their relation and visibility to the harbour in which Drake anchored.

"I have also collated some of the narratives of the discoveries of the Spaniards with that of Drake.

"Long before I had gathered all this information, my early judgment was corrected, and I saw the great circumnavigator anchored in Drake's Bay; could almost point out the spot where he careened his ship; and to-day there remains not the shadow of a doubt in my mind as to the exact locality.

"Furthermore, when I look over the list of authorities at my command, that have given opinions upon the subject, some for and some against San Francisco Bay, I fail to note one who was personally familiar with the details of all the localities involved; with the advantages of Drake's Bay as a harbour of refuge in any storm; with the peculiarities of the seaboard as it appeared to Drake when coasting it; with the landfall of Point Reyes Head as

he made it; with the relatively smooth water so soon felt after he rounded the western extremity, and the clear indications of shelter under its eastern point; and with the impossibility of sailing direct to the North Farallones or, even to the Southeast Farallon, from the Golden Gate of San Francisco Bay with the prevailing summer winds.

"The publication of the 'Narrative and Critical History of America',* by Justin Winsor, of Harvard University Library, giving *in extenso* the argument of Rev. Edward Everett Hale, D.D., in favor of San Francisco Bay, has prompted me to bring forward my experience and deductions at this time. Dr. Hale has gathered a mass of very interesting information upon the subject, and I am convinced that he will cheerfully accord me the privilege of appealing to the same authorities which he has done, in cumulating my evidence. He is so accustomed to weigh such matters impartially, that I believe I shall satisfy him and Mr. Winsor that my deductions are correct.

"With these preliminary remarks I propose the following order in my statements: (1) To give a few short extracts from the 'Narrations of Drake's Adventure' that will recall such incidents as bear upon the nature of his voyage, the character of his fellow-adventurers, and the discovery of the port of New Albion; (2) the name of his ship, and a few words about the principal narrator of the voyage; (3) extracts giving a description of the second bay in which he anchored upon this coast, and of the adjacent country; (4) and the name and latitude of that port from various authorities. Then, from my own experience, I give (5) a description of the landfall of Drake south of Point Arena, (6) of Point Reyes Head, and (7) of the Gulf of the Farallones and Drake's Bay. To these are added (8) the first visits of the Spaniards to Drake's Bay, and (9) the reported traditions of the Nicasio Indians; also, (10) an account of various ancient charts which I have consulted.

"These descriptive statements naturally embody most of the reasons why I believe Drake anchored under the eastern promontory of Point Reyes Head. Without re-enumerating these reasons, I state (11) others to show why he did not anchor in Bodega Bay, and (12) why he could not have anchored in San Francisco Bay.

"From the U. S. Coast Survey publications I have drawn up the chart from Point Arena to Point San Pedro (No. 1), to exhibit the prominence of the notable headland of Point Reyes, lying out-

* "Narrative and Critical History of America," by Justin Winsor. Houghton, Mifflin & Co., Boston and New York, 1886–1888 (Vols. II–VI), 4to.

side the general course of the Coast which Drake was following with the closest scrutiny. This has never been fairly noticed; in fact, it has been generally ignored. I have given a more extended chart of Drake's Bay, to exhibit the soundings in the approaches and at the anchorage; to locate the white cliffs and white sand banks from one hundred to three hundred feet high, that, for a stretch of six miles, were constantly before his eyes, and to demonstrate that this harbour of refuge is not 'the open roadstead'* designated by Dr. Hale. I have presented a photographic view of the eastern promontory of Point Reyes Head from the harbour, to show that Hondius was justified in placing the representation of an islet outside the promontory, although his location is erroneous. Another equally striking view, taken when the harbour is approached from the southwest, has not been reduced. I present also the charts of Dudley, from photographs of the original manuscripts, to show the coast mountains as landfalls, and the soundings in the approaches and anchorage of Drake's Harbour. To these are added copies from Dudley's charts in the 'Arcano del Mare'; from Hondius, Vizcaino, Costansó, and others. Some of these are made public for the first time.

Drake's Discovery of the Port of New Albion on the Coast of California.

"'The Maine Ocean by right is the Lord's alone, and by nature left free for all men to deale withall, as very sufficient for all mens vse, and large enough for all mens industry.

"'And therefore that valiant enterprize, accompanied with happy successe, which that right rare and thrice worthy Captaine, *Francis Drake*, atchieued, in first turning up a furrow about the whole world, doth not onely ouermatch the ancient Argonauts, but also outreacheth, in many respects that noble mariner *Magellanus*, and by farre surpasseth his crowned victory. But hereof let posterity judge.'†

"There is a glamour about the name of Sir Francis Drake. Success brought him the favour of Queen Elizabeth; his bravery,

* Proceedings of the American Antiquarian Society, No. 61, p. 91.

† Works issued by the Hakluyt Society. "The World Encompassed by Sir Francis Drake, M.DCCC.LIV," Page 6.

"'The World encompassed by Sir Francis Drake, being his next voyage to that to Nombre de Dios formerly imprinted; carefully collected out of the notes of Master Francis Fletcher, Preacher in his employment, and diuers others his followers in the same; offered now at last to publique view, both for the honour of the Actor, but especially for the stirring up of heroick spirits to benefit their Countrie, and eternize their names by like noble attempts. London: Printed for Nicholas Bovrne, and are to be sold at his shop at the Royall Exchange. 1628.'

vigor and self-assertion, conspicuous among many patriotic and fearless men at the destruction of the invincible Spanish Armada, made him a hero of the nation.

"He was not a discoverer in any honest acceptation of the word, but in the exigencies of his famous voyage he was the first European who saw the coast of Oregon and anchored under its shores; he was the first European who anchored in the bay since known by his name, where he refitted his ship, and took possession of New Albion. Californians have, therefore, a pardonable interest in knowing the exact geographical position of this landing.

"FRANCIS DRAKE was the 'Captaine-general' of Freebooters; on the western coast of South America he 'and his men pirates'* had loaded his vessel with a fabulous amount of fine wares from Asia, precious stones, church ornaments, gold, plate, 'and so mooch silver as did ballas the Goulden Hinde'.†

"He was magnificent in projecting great enterprises, persuasive in acquiring the means, self-contained and without shadow of fear, despotic in command, merciless in execution, full of resources; he was a born leader.

"The expedition of 1577–1580 to the South Sea was made up of 'gentlemen and saylars',‡ drawn together by the love of adventure and plunder; 'a sort of cogginge and lyinge knaves',§ 'a companye of desperate banckwrouptes that could not lyve in theyr countrye without the spoyle of that as others had gotten by the swete of theyr browes.'‖

"This 'hard crowd' needed a commander of unflinching determination in emergencies, and they found one who, when they opposed him, warned 'them take hede for * * * yf I fynd them in my way I will surely synke them'.¶

"Nevertheless, with his surfeit of 'eight hundred sixty sixe thousand pezos of silver, * * * a hundred thousand pezos of gold, * * * and other things of great worth** this tyranous and cruell tirant†† thought it not good to returne by the (Magellan) streights * * * least the Spaniards should there waite, and attend for him in great numbers and strength, whose handes, he being left but one ship, could not possibly escape'.‡‡

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* Page 183. Appendix III.
† Page 182. Appendix III.
‡ Page 213. Appendix IV.
§ Page 169. Appendix I.
‖ Page 207. Appendix IV.
¶ Page 213. Appendix IV.
** Page 291. Part V. Appendix V.
†† Page 206. Appendix IV.
‡‡ Page 220. Part I. Appendix V.

"It was, therefore, absolutely necessary for him to reach his own country by some unknown route, on which he would be unlikely to encounter any ship of the Spaniards. He had too much at stake to assume any risks of capture, and so, with superb self-confidence, he decided upon finding a passage from the Pacific to the Atlantic by sailing to the northward and then to the eastward. He was in the entrance to the Bay of Panama in the first week of March, 1579, after his rich capture of the Cacafuego. 'The time of the yeare now drew on wherein we must attempt, or of necessite wholly give ouer that action, which chiefly our Generall had determined, namely, the discouery of what passage there was to be found about the Northerne parts of America, from the South Sea, into our owne Ocean, * * * which could not be done if the opportunity of time were now neglected; we therefore all of vs willingly harkened and consented to our Generalls aduice, which was, first to seeke out some conuenient place wherein to trimme our ship, and store ourselues with wood and water and other prouisions as we could get, and thenceforward to hasten on our intended iourney for the discouery of said passage, through which we might with joy returne to our longed homes'.*

"For more than two months he traversed unknown and trackless waters, with a self-reliance and a fearlessness that challenges the admiration of the seaman; sailing more than a thousand leagues without seeing land. Nevertheless, courage could not conquer impossibilities; in latitude forty-two, when still steering into the unknown, he encountered the prevailing summer winds of the North Pacific. The cold was trying and disheartening to his men; the strong and persistent Northwesters, and the large sea therewith, and the impenetrable 'most vile, thicke, and stinking fogges'† soon convinced him of the unfeasibility of his search; so 'wee were forced by contrary windes to runne in with the shoare, which we then first descried, and to cast anchor in a bad bay, the best roade we could for the present meete with'.‡

"He anchored in the open roadstead off the mouth of the Chetko River, under the partial protection of Cape Ferrelo, in latitude 42° 03′. Here 'the winds directly bent against vs, and hauing once gotten vs vnder sayle againe, commanded vs to the southward whether we would or no.'§

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* Pages 111–112.
† Pages 115, 118.
‡ Page 115.
§ Page 115.

"From this latitude of forty-two * to '38 we found the land, by coasting alongst it, to be but low and reasonable plaine; euery hill (whereof we saw many, but none verie high) though it were in *June*, and the Sunne in his neerest approach vnto them, being couered with snow.

"'In 38 deg. 30 min. we fell in with a conuenient and fit harborough, and *June* 17 came to anchor therein, when we continued till the 23 day of *July* following.' †

"Another narrator gives a slightly different version: Drake 'being afraid to spend long time in seeking for the straite, hee turned back againe, still keeping along the cost as near land as hee might, vntil hee came to 44 gr.,‡ and thē hee found a harborow for his ship, where hee groūded his ship to trim her.' ‖

"We have still another account of his reaching this anchorage. 'The fift day of June, being in fortie-three degrees towardes the pole Arcticke, being speedily come out of the extreame heate, wee founde the ayre so colde, that our men being pinched with the same, complayned of the extremitie thereof, and the further we went the more the colde increased upon us; whereupon we thought it best for that time to seeke land, and did so, finding it not mountainous, but low plaine land (and we drew backe againe without landing, till we came within thirty-eight degrees towardes the line. In which height, it pleased God to send us into a faire and good bay, with a good winde to enter the same.' §

"THE NAMES OF DRAKE'S SHIP; AND THE PRINCIPAL NARRATOR OF THIS VOYAGE.

"In the brief enumeration of the vessels which 'by gratious commission from his soueraigne, and the helpe of diuers friends avuenturers, he had fitted himselfe with fiue ships,' we need mention only:

"I. The *Pellican*, admirall, burthen 100 tonnes, Captaine generall *Francis Drake*.' ¶

"In the narrative of 'the *Elizabeth*, vice-admirall, burthen 80 tonnes, Captain John Winter', 'written by Edward Cliffe, mariner,' the narrator describes Drake's vessel as 'the *Pellican*, in burthen 120 tonnes, being admirall of the fleete'. **

* The Narrative says 48, to which height he never reached.

† Page 115.

‡ Page 184. Appendix III. This should be 38°; the narrator evidently confounds the Northern extreme, which one account claimed him to have reached, with the Southern anchorage in 38°.

‖ Page 184. Appendix IV.

§ Page 221. Part I, Appendix V. Page 243, Part II, Appendix V.

¶ Page 6.

** Page 269. Part IV. Appendix V.

"Throughout the Narratives we find the admiral's name indifferently spelled *Pellicane*, *Pelicane*, *Pellycan*, and *Pellycane*.

"Drake's ship did not, however, continue under her original name. When he made the eastern entrance to the Strait of Magellan on the 20th of August, 1578, the narrator says:

'At this cape (*Capo Virgin Maria*) our generall caused his fleet, in homage to our soueraigne lady, the Queenes Maiesty, to strike their top-sailes vpon the bunt, as a token of his willing and glad minde, to shewe his dutifull obedience to her highnes, whom he acknowledged to have full interest and right in that new discouery; and withall, in remembrance of his honourable friend and fauorer, Sir *Christopher Hatton*, he changed the name of the shippe which himselfe went in from the *Pellican* to be called the *Golden Hinde*.'*

"The crest of Sir Christopher was 'a Hinde Statant *or*';† and the Queen's vice-chamberlain evidently had some stock in this piratical expedition, for Drake upon one occasion 'shewed also a byll of Master Hattons adventure.'‡

"There were 164 men and boys in the five ships, but how many each vessel carried is not recorded. We are assured, however, that the 'admirall' carried a 'preacher and pastor of the fleet', § 'one Ffrancis Ffletcher, Minister of Christ and Preacher of the Gospell, adventurer and traveller in the same voyage,‖ although Drake on occasion did the preaching himself: 'Nay, softe, Master Fletchar (qd. he) I must preache this day my selfe, althowghe I have small skyll in preachinge.' Drake even usurped the highest ecclesiastical authority, for once, after putting the parson in irons made fast to the forecastle, 'hee said, Francis Fletcher, I doo heere excomvnicate thee out of ye Church of God, and from all the benefites and graces thereof, and I denounce thee to the divell and all his angells';¶ and around his neck he hung a placard with the suggestive legend: 'frances fletcher, ye falsest knave yt liveth.'**

"EXTRACTS FROM THE NARRATIVES DESCRIBING THE HARBOR IN WHICH DRAKE ANCHORED.

"The first published description of the bay in which Drake anchored, so far as I have learned, is found in the 'Arcano del

* Page 71.

† "The Sea Fathers," by Clements R. Markham, page 109. Cassell & Co., London, Paris and New York, 1884.

‡ Page 216. Appendix IV.

§ Page 212. Appendix IV.

‖ Introduction, page XI.

¶ Page 176. Appendix IV.

** Page 177. Appendix IV.

Mare'* of Dudley, who, in describing the 'Carta Particolare,' No. XXXIII, says that 'the Port of New Albion in latitude thirty-eight degrees was discovered by Drake, the Englishman, in 1579 or thereabout; it is a place convenient to get fresh water and procure other necessaries. The said Drake found that the natives of the country were very well behaved and kind, and the land quite fruitful, and the weather temperate. They saw rabbits in great numbers, except that the tail was long like that of a rat, and with the greatest wonder they saw many native horses, which the Spaniards had never seen before in America; and the reason why Drake sought and found this port was this, that having passed the true Cape Mendocino in latitude 42½ to procure water, even from latitude 43½, he found the coast so very cold in the month of June that his people were not able to bear it, at which they marvelled much, the country being so much like that of Tuscany and Rome; therefore Drake found it expedient to return more towards the South-Southeast, even to 38° of latitude; and in seeking for water he discovered that port, and the country he had been the first to examine was named by him Nuoua Albion, in honor of his own country England, which was long before named Albion on account of the white cliffs; more than that the King of that country, of his own free will made himself and all his people tributary to the Crown of England.'†

"This description is meagre and somewhat unsatisfactory. Fortunately we can turn to the more detailed narrative of 'The World Encompassed,' with a feeling that the internal evidence points to the same original material for the descriptions.

"I have already noted that Drake reached 'a faire and good bay, with a good winde to enter the same,' and anchored in this 'conuenient and fit harborough' in latitude 38°. The many details of his dealings with the natives are not necessary to the present inquiry; but the following extracts, although they break the consecutiveness of the narrative, are introduced as bearing upon certain physical conditions about the harbour, bay and adjacent islands.

"(P. 116.)‡ 'Neither could we at any time, in whole four-

* "Dell' Arcano del Mare, di D. Rvberto Dvdleo Dvca di Northvmbria, e Conte di VVarvich, Libri Sei; * * * Al Serenissimo Ferdinando Secondo Gran Dvca di Toscana suo Signore, * * * In Firenze, Nella Stamperia di Francesco Onofri, 1646. Con licenza de' SS. Superiori." Royal folio, 3 vols., 1630, 1646, 1647."

† The extract is from Part II, Vol. III, Book VI, page 58. The original text is given on page 50.

‡ "World Encompassed," &c.

teene dayes together, find the aire so cleare to be able to take the height of sunne or starre.'*

"(P. 117.) 'Besides, how vnhandsome and deformed appeared the face of the earth itselfe! shewing trees without leaves, and the ground without greenness in those moneths of *June* and *July*, * * * and that the north and northwest winds are here constant in *June* and *July*, as the north wind alone is in *August* and *September*, we not onely found it by our owne experience, but were fully confirmed in the opinion thereof (p. 118) by the continued obseruations of the Spaniards.'

"(P. 120.) 'The 3 day following, viz., the 21, our ship, having receiued a leake at sea, was brought to anchor neerer the shoare; that, her goods being landed, she might be repaired; but for that we were to preuent any danger that might chance against our safety, our Generall first of all landed his men, with all necessary prouision, to build tents and make a fort for the defense of our selues and goods; and that we might vnder the shelter of it with more safety (what euer should befall) end our businesse.'

"(P. 122.) 'And therefore with all expedition we set vp our tents and intrenched our selues with walls of stone; that being so fortified within our selues, we might be able to keep off the enemie (if they should prove so).'

"(P. 122.) 'When they (the Indians) came to the top of the hill, at the bottom whereof wee had built our fort, they made a stand.'

"(P. 223. App. V, part I: part II, p. 243.) 'In the meantime our Generall gathered his men together, and marched within his fenced place, making against their approaching a very warlike scheme.'

"(P. 223. App. V, part I: part II, p. 243.) 'In coming towards our bulwarks and tents; * * * (p. 224) the Generall permitted them to enter within our bulwarks.'

"(P. 128.) 'And so our Generall * * * gave orders that they might freely enter without interruption within our bulwarke.'

"(P. 128.) 'They made signes to our Generall to have him sit down; * * * making signes that they would resign vnto him their right and title in the whole land and become his vassals in themselues and their posterities.'

"(P. 129.) 'Wherefore, in the name and to the vse of her most excellent maiesty, he took the scepter, crowne, and dignity

* "From July 2nd, 1859, the fog hung over the promontory of Point Reyes for thirty-nine consecutive days and nights. The sun was invisible for the first nine days, and on shore it was visible only at midday for the next thirty days, but the fog hung densely over the water."

of the said countrie into his hand; wishing nothing more than that * * * the riches and treasures thereof (whereof in the vpland countries it abounds) might with as great conuenience be transported, to the enriching of her kingdome at home.'

"(P. 225. App. V, part I: App. V, part II, p. 243.) 'There is no part of earth here to bee taken up, wherein there is not some speciall likelihood of gold or siluer.'

"(P. 131.) 'After that all our necessary businesses were well dispatched, our Generall, with his gentlemen and many of his company, made a iourney vp into the land, * * * to be the better acquainted with the nature and commodities of the country.'

"(P. 225. App. V, part I.) 'Our necessarie businesse being ended, our Generall, with his companie, traueiled up into the Countery to the villages, where we found heardes of deere by a thousand in a companie, being most large and fat of body.'

"(P. 132.) 'The inland we found to be farre different from the shoare, a goodly country, and fruitful soyle, stored with many blessings fit for the use of man: infinite was the company of very large and fat Deere which there we sawe by thousands, as we supposed, in a heard.'

"In the two narratives there is given a fair description of the gopher, except in regard to 'his tayle, like tha tayle of a Rat exceeding long.' (P. 132, p. 223. App. V, part I.)

"(P. 132.) 'This country our Generall named *Albion*, and that for two causes; the one in respect to the white banckes and cliffes, which lie toward the sea; the other, that it might have some affinity, euen in name also, with our own country, which was sometimes so called.'

"(P. 225. App. V, part I: part II, p. 243.) 'Our Generall called this countrey *Noua Albion*, and that for two causes: the one in respect of the white bankes and cliffes, which ly towardes the sea: and the other, because it might haue some affinitie with our own country in name, which sometime was so called.'

"(P. 132.) 'Before we went from thence, our Generall caused to be set vp a monument of our being there.' This statement and the details of the ceremony are repeated in two other places. (P. 225, App. V, part I: part II, p. 243.)

"(P. 132.) 'The Spaniards neuer had any dealings, or so much as set foote in this country, the vtmost of their discoueries reaching onely to many degrees Southward of this place.' A similar statement is made in App. V, part I, p. 226; and in App. V, part II, p. 243.

"(P. 133.) 'The 23 *July* they (the Indians) took a sorryful farewell of vs, but (p. 134) being loathe to leave vs, they presently ranne to the top of the hils to keep vs in sight as long as they could, making fires before and behind, and on each side of them, burning therein sacrifices at our departure.'

"(P. 134.) 'Not farre without this harborough did lye certaine Ilands (we called them the Ilands of Saint *James*), hauing on them plentifull and great store of Seales and birds, with one of which we found such prouision as might completely serue our turne for a while. We departed againe the day following, viz., *July* 25. And our Generall now, considering the extremity of the cold, * * * and the wind blowing still (as it did at the first) from the Northwest, * * * bent his course directly to runne with the Ilands of the Moluccas.'

"P. 243. App. V, part II.) 'After we had set saile from hence, we continued without sight of land till the 13 day of October following.'

"The compiler of the *Hero* says somewhat more explicitly of the Farallones, 'Little without their Harbour lye certain Isles, and by them the Islands of St. James, wherein are plenty of Seals and Fowls, and landing on one of them next day, they supplied themselves with competent provision for some time.'*

"As bearing upon the depth of water in this harbor of Drake, and whether he could careen his ship there, I make other extracts from his narrative. When his vessel was on the rock, on the 10th of January, 1580, 'In 2 degrees lacking three or four minutes South Latitude,' he remarks (p. 156), 'our ship, who required thirteen foot water to make her fleet * * * , fell a heeling towards the deepe water, and by that meanes freed her keele, and made vs glad men.'†

"Moreover, he was accustomed to the use of seal meat for food (p. 39): In this 'commodious harbor * * we killed diuers Seals, or Sea Wolves (as the Spaniard calls them), which resorted to these rocks in great abundance. They are good meat, and are an acceptable food for vs for the present, and a good supply of our prouision for the future, (p. 275, App. V, part IV); North of the Rio Plata in a 'deepe bay' * * * 'wee killed some seales.'

"In Drake's Bay he gave the Indians (p. 131) 'such victuals as we had prouided for our selues, as Muscles, Seales, and such like.'

* "The English Hero: or, Sir Francis Drake Reviv'd," etc., the Twelfth Edition, 1739, p. 129.
† "The World Encompassed," &c.

The foregoing passages are quoted *verbatim* from the opening pages, following which the greater part of Prof. Davidson's paper is devoted to the setting forth and discussion of a multitude of details, concerning the name and latitude of Drake's anchorage, the description of various ancient charts consulted, together with other pertinent matters, and a conclusive statement of reasons why Drake did not land elsewhere and why he could not have anchored in San Francisco Bay.

From these data it appears that "In the marginal plan of the anchorage of Drake on the Map of the World, by Hondius (Hague? 1595?) we first find the name Portus Novæ Albionis," which, in variously modified forms reappears in many later charts as the descriptive name of the bay or port, in latitude 38°, within the protecting headlands of Point Reyes, where Drake first landed and called the country "New Albion."

"*Porto di Noua Albion*," "*Po. de los Reyes*," "*El Puerto de San Francisco*," "*Porto Sir Francis Drake*," "*Porto St. Francis Drake, wrongly named Port St. San Francisco*," "*P. S. F. Drake*," "*La Bahia de San Francisco*," with other variations, all referring to the bay at Point Reyes, in or near latitude 38°, and none referring in any sense to the present Bay of San Francisco, are also described with abundant detail.

After 1603 this name San Francisco was generally substituted for that of New Albion among the Spanish navigators, and in 1734 it is described by Don Joseph Gonzales Cabrera Bueno, in his "Coast Pilot," published in Manila.* He says the port was a good shelter from all winds, and that during southeast storms vessels must anchor in the southwest angle of the bay. He states that it is on the north side of Point Reyes, yet overlooks the very essential fact that it is on the north side of the eastern promontory of the Head. He placed it in latitude 38½°.

It further appears that the present Bay of San Francisco was discovered in 1769 (190 years after Drake's Bay) by Don Gaspar de Portolá, commanding the land expedition from San Diego, to rediscover Vizcaino's "famous Harbour" of Monterey. His engineer was Costansó, who published in 1770 his chart, whereon he places the old port of San Francisco (referring to Drake's Bay) and also the new port (referring to the present Bay) which he is

* "Admiral Cabrera compiled his Coast Pilot, for he was never upon this Coast, and it is a noteworthy fact that all his latitudes, from Cape Mendocino southward, are half a degree or more too large, viz.: Point Arena, Point Reyes, Point Año Nuevo, and Point Pinos. This correction, applied to the Puerto de San Francisco, would place it in latitude 38°."

the first to name the "Estero de San Francisco." Referring to this work Professor Davidson writes:

"*The Costansó Chart of 1770.*

"In the chart of California by the Engineer of Portolá's expedition, I find the graphical demonstration of his descriptive report of the exploration of 1769, when, on the 31st of October, from the mountains behind San Pedro Cove, he discovered the 'Farallones de la Bahia de San Francisco,' and Point Reyes, which he estimated to be in latitude 37° 45′, although he was then in 37° 31′. But from the same point of view he discovered to the eastward, inside the coast range of mountains, a great gulf forming a mediterranean sea, with an arm connecting it with the ocean. This was the present Bay of San Francisco and the Golden Gate. Costansó has laid down the old puerto of similar shape to the Portus of Hondius, the B: di noua Albion of Dudley, and nearly the Puerto de los Reyes of Vizcaino: while immediately under it is the entrance to the 'Estero de S. Francisco,' with one great arm reaching twenty miles to the northeast, and a second great arm reaching twenty-five miles to the southeast. Off the entrance to this Estero lie Los Farallones, visible also from the Pto de S. Francisco. The name Pta de los Reyes is applied opposite the long promontory forming the southern side of Drake's Bay.

"True to his instincts as an engineer, Costansó, has given no details to the northward. He had been sent to rediscover Vizcaino's 'famous harbour of Monterey,' and in the search made this remarkable discovery of the Bay of San Francisco. In the southern parts of the coast and immediately approaching San Francisco, he says in the title that he had the use of the diaries of different pilots, but especially those of the 'Paquetbote el S. Antonio,' which arrived at Monterey May 31, 1770, and made a special expedition to 'el Puerto de S. Francisco occupado ahora de nuevo por los nuestros.'

"Costansó's work was remarkably good: his latitudes from San Diego to Pillar Point are always within a minute of arc of the modern determinations; and hence we are safe in placing great reliance on his words and his graphical illustrations of them. These incontestably establish the old port of San Francisco to be that of Sir Francis Drake, and totally distinct from the Estero or Puerto de San Francisco.

"This chart and the preceding one are the connecting links between Drake and the later navigators, and they alone would establish the 'fit and convenient harbour' in which the *Golden Hinde* anchored, were there no other evidence.

"The difference between the old port and the new port is emphasized by the statement of Rev. Edward Everett Hale, that a contemporary manuscript account of Costansó's discovery, preserved in the British Museum, records the principal features of the new discovery as follows: 'They say it is the best bay they have discovered; and while it might shelter all the navies in Europe, it is entered by a straight of three leagues, and surrounded with mountains, which make the waters tranquil.'* This applies to San Francisco Bay, and it does not apply to Drake's anchorage."

Finally, in a very full and comprehensive paper, entitled "The Discovery of San Francisco Bay," recently published (May, 1907) by the Geographical Society of the Pacific, Professor Davidson has put on record the most minute details of his investigation of the many questions concerning that event, showing conclusively (1) that the first discovery by Europeans of San Francisco Bay was made, as already herein set forth, by Portolá's land expedition, approaching from the south, in 1769, and in a reconnaissance around the southeast head of the bay, in the Santa Clara Valley, lying to the east of the coast range of mountains, many miles from the sea and the entrance therefrom, now known as the "Golden Gate"; (2) that there is no record of any European having ever seen the Entrance from the Sea into the Bay of San Francisco, prior to 1772; and (3) that *The San Cárlos* was the first known vessel to enter the Golden Gate, which event occurred on August 5th, 1775, little more than 196 years after the departure of Drake from his landing place and Port, near Point Reyes, now known as Drake's Bay.

Sir Francis Drake's visit on the California coast in June, 1579, was incidentally the occasion of a memorable event, especially interesting for the records of Church History, when Francis Fletcher, Drake's chaplain, is said to have held a religious service on the shore, in the presence of the ship's company and the assembled natives, which is generally believed to have been the first use of the Book of Common Prayer in our country.

The Rt. Rev. William Ford Nichols, Bishop of California, became actively interested, some years ago, in a project to fitly mark by a suitable monument, the landing place of Drake, on the shore of California, and thus, by the same token, establish a Memorial of the first Church service held in the English tongue on the Pacific coast. In a very interesting paper contributed to *Harper's Weekly*, January 13th, 1894, entitled "A Bit of Elizabethan California,"

* "Narrative and Critical History of America," etc. Vol. III, pages 75-76.

after noting the fact that "Some eleven centuries before it was called England, the country of the white cliffs was named Albion: and a generation before there was a New England on the Atlantic, there was a New Albion on the Pacific Coast of the New World," Bishop Nichols wrote: "Not to speak of the works of the Hakluyt Society and the older accounts of the voyage, the editor of "The History of the American Episcopal Church, Bishop Perry, called attention to the fact that to Francis Fletcher, Drake's chaplain, belongs the honour of being the first in English orders who ministered the Word and Sacraments within the territory of the United States," and that at Drake's landing place "the words of the Common Prayer were first heard on the Pacific Coast."

The long-cherished purpose of erecting such a Memorial was ultimately accomplished through the generosity of Mr. George W. Childs, of Philadelphia, by whose gift a stately monument, known as the "Prayer Book Cross," was established and dedicated, January 1st, 1894, not at Drake's landing-place, as first proposed, where, by the configuration of the coast, it would be concealed from distant view and very rarely seen, but on a well-chosen site in Golden Gate Park, near San Francisco, between the city and the ocean shore, at an elevation of 300 feet, or more, above the sea.

The monument is a great gray-stone Celtic cross, with base of 15 by 17 feet and 6 feet high, from which the Cross rises to a height of 55 feet above the ground, with shaft 8 by 6 feet, the arms being 21 feet across, all of stone.

The Cross bears the following inscriptions:

"A Memorial of the service held on the shore of Drake's Bay, about St. John Baptist's Day, June 24, A.D. 1579, by Francis Fletcher, Priest of the Church of England, Chaplain of Sir Francis Drake, Chronicler of the Service."

(On the Reverse)

"First Christian Service in the English tongue on our coast.
"First use of Book of Common Prayer in our country.
"One of the first recorded Missionary Prayers on our continent.
"Soli Deo sit semper Gloria."

(On Base Front)

"Gift of George W. Childs, Esq., of Philadelphia."

The following extract from the "World Encompassed" more especially bears upon the points covered in the inscription, giving

an account of the service held, and making record of the words of the very early American missionary prayer:

"Our Generall, with his companie, in the presence of those strangers, fell to prayers; and by signes, in lifting up our eyes and hands to heaven, signified unto them that that God whom we did serve, and whom they ought to worship, was above: beseeching God, if it were his good pleasure, to open by some meanes their blinded eyes, that they might in due time be called to the knowledge of him, the true and everliving God, and of Jesus Christ whom he hath sent, the salvation of the Gentiles. In the time of which prayers, singing of Psalmes, and reading of certaine chapters of the Bible, they sate very attentively."

The *Golden Hinde* completed her "world-encompassing" voyage when she returned to England and came to anchor in Plymouth Sound, September 26th, 1580. The event was celebrated, far and wide, with great rejoicing and festivities, which culminated, six months later, in the visit of Queen Elizabeth, who went in state to dine on the famous ship, at Deptford, on April 4th, 1581, on which occasion, after the banquet, she bade Drake fall to his knees and conferred upon him the honour of knighthood.

The *Golden Hinde* was kept as a public relic until the ship fell into decay, when a stately memorial chair was made from her timbers and presented by Charles II. to the University of Oxford, where it can now be seen in the Bodleian Library.

The Drake Medal, issued by the American Numismatic Society, presents a bust portrait of Sir Francis which the artist, Professor Rudolph Marschall, of Vienna, Royal Medallist to the Court of Austria, with the aid of photographic copies taken specially for this work, by the courtesy of Lady Drake, has produced from an oil painting from life by Abraham Janssens, continuously in the possession of the family and now at Buckland Abbey, Devonshire, England.

The reverse of this medal is a reproduction,* as a partial *facsimile*, of one side (the Western or Pacific Hemisphere) of the celebrated Silver Medal or "Map of the World," which is generally believed to have been made shortly, or, in any event, within a few years, after Drake's return from his "world-encompassing" expedition, and concerning which the late Sir John Evans, calling the attention of the Royal Numismatic Society to this interesting

* Professor Marschall undertook this work upon the understanding that historical accuracy should dominate artistic sentiment in his design.

memorial,* said: "Of all the medals of the British series there is, perhaps, none of greater interest to the English-speaking people on both sides of the Atlantic than that commemorating the voyage of Sir Francis Drake 'round the world, which he completed in the year 1580."

This medal is a thin circular plate of silver, nearly three (2.8) inches in diameter, stamped in imitation of engraving, showing on each of its two opposite sides an outline map, one of the Eastern, and the other of the Western, Hemisphere, designed to represent the known facts or the prevailing ideas of the geography of the world at that period. A dotted line indicates, with more or less precision, the circumnavigator's sailing track. Besides inscriptions of the dates of Drake's departure, in 1577, and of his return, in 1580, the maps bear numerous other legends and, in addition thereto, not less than 110 geographical names, 67 on the Eastern, and 43 on the Western, Hemisphere.

Many of these names, dates and legends are naturally without any significant relation to Drake's circumnavigating expedition, and, as there is no specific name or date on the map to indicate the identity of the engraver, or his object, or the date of its origin, these matters still remain conjectural and open to question. It is the judgment of Professor Davidson, who has carefully considered all the evidences, that the Silver Map was commemorative, not alone of Drake's exploits of 1577–80, but also of the achievements of Cabot and Frobisher, and, generally, of the Discoveries of the English from 1497 to 1586 or later, and that it was made after 1588.

In a recently published paper† Professor Davidson writes: "As to the date of the production of the plaque of the Silver Map and the sources of information for its construction, we surmise that it was drawn from material then in possession of Jodocus Hondius,‡ and which embraced the discoveries of Drake and of Cavendish, who had returned to Plymouth in September, 1588.

"It seems probable that it was executed by Hondius himself as a token of thanks to those who had assisted him in gathering materials for his coming map; and that the date may be even as

* Published in the "Numismatic Chronicle," Fourth Series, Vol. VI.

† Francis Drake on the Northwest coast of America in the year 1579, by George Davidson, President Geographical Society of the Pacific. Extracted from the Transactions and Proceedings of the Society and ordered to be printed by the Council, February 29, 1908.

‡ Jodocus Hondius (Joos de Hondt), a Hollander, settled in London as a cartographer and engraver. He engraved the chart of the two hemispheres (1595?) now in the British Museum on which is the statement over New Albion that Drake reached the latitude of 42°. (Jodocus went to England in 1583; married in London 1587, and returned to the Low Countries in 1594. Christy.)

late as 1594, when he was leaving England; and, moreover, that very few specimens were made.

Mr. Miller Christy, of London, who published, in 1900, an interesting volume concerning this medallion,* says: "Only three 'copies' or examples of it are known to exist†—each of them identically the same in all but the most trivial respects." They differ somewhat in thickness and weight, the lightest weighing 260, the second, 300.6, and the heaviest, 424 grains troy. The first two mentioned are in the British Museum; the third now belongs to Sir John Evans.

Mr. Edward D. Adams, Chairman of the Medal Committee of the American Numismatic Society, obtained, several years ago, an electrotype copy of one of the examples in the British Museum, from which has been produced the *facsimile* that forms the reverse of the Drake Medal, recently issued by the above-named society.

An interesting feature of this very ancient medal map is the apparent indication of what may have been a formerly existing inland sea, within the region where, some centuries ago, the Gulf of California extended to a point about 150 miles northwestward from its present head, thus covering the same depressed area of land where to-day, by the accidental inletting of the Colorado River, there has recently been formed the so-called "Salton Sea," of which the upper surface is about 200, and the extreme depth, or bottom of the basin, is nearly 300, feet below sea-level.

This topographical feature of the Silver Map clearly suggests the possibility, if it does not certainly indicate the probability, that at the time when the map was made there was still an open channel between and connecting the slowly vanishing inland sea and the head of the Gulf of California, which was gradually being shut out by the accumulating delta of the Colorado River.

If this channel were still open 370 years ago, when the early Spanish navigators were already exploring that region, it might easily have happened that some Spanish craft, older than the *Golden Hinde*, entered the inland basin, to be finally stranded there, in the sands of the desert, thus verifying the somewhat mythical stories that have long since been current in that desolate waste,

*"The Silver Map of Drake's Voyage, 1577–1580." By Miller Christy, London: Henry Stevens, Son, and Stiles, 39 Russell Street, 1900.

†Referring to the number of copies now extant, Lady Elliott Drake, writing from Nutwell Court, Lympstone, Devon, to the Chairman of the Committee on the Publication of Medals for the American Numismatic Society, says: "With regard to the 'Silver Map' which is so interestingly reproduced on the reverse of the plaque, I think that you will like to know that four exist—those you mention and one here. It is in a little old black shagreen case, just as the first Sir Francis had it—carried it about in his pocket maybe—to show to curious questioners where his ship had sailed."

reporting the finding of the remains of an ancient vessel in the dried-out bottom of an evaporated sea.

It is also historically interesting to note the early appearance and lasting permanence of certain geographical names, such as California, Florida, Virginia, and others, remarking especially "Bacallaos," which is Spanish for Cod, a characteristic native of the New England coast.

A further noteworthy instance of persistent nomenclature is that of a small, remotely isolated rock, in the North Pacific Ocean, far off the west coast of Mexico, shown on the Silver Map as the "Rocca Partida," by which name it is referred to by Spanish navigators of still earlier date, and likewise appears on our charts of the present day.

The "Rocca Partida" is thus significantly related to that vast, deep, still uncharted and more or less mysterious region, reaching many hundred miles yet farther west, towards Hawaii, which, if it contain no island, is probably the largest landless ocean area on the surface of the globe, whence, during the past century, the cruising whalemen and rarely passing navigators have brought reports of shoals, reefs and plainly visible islands, none of which, by some mischance, has ever yet been found by any of the exploring vessels of Great Britain or the United States, sent, during the past eighty years, to look for them. Yet Villalobos, in the record of his voyage in 1542, under date of December 3rd, says: "and we sailed beyond Rocca Partida about two hundred leagues, when we had soundings in seven fathoms." It was somewhere in this remote region that, sailing from Hawaii to Panama, in September or October, 1860, the U. S. S. *Levant* mysteriously disappeared, leaving no trace, unless it be in certain wreckage. found nine months thereafter on the south shore of Hawaii, and then and there identified as a lower mast and piece of a lower yard of the missing *Levant;* and it may be that on some habitable island, somewhere within the region thus indicated by the "Rocca Partida," some of her surviving shipwrecked castaways may still be watching for a sail.

GEOGRAPHICAL RECORD.

AFRICA.

DR. HASSERT'S EXPLORATION OF MOUNT KAMERUN.—Dr. Hassert's report on his investigations in the upper regions of Mount Kamerun, where he was engaged from October 22 to December 2 last year, are published in *Mitt. aus den Deutsch. Schutzgeb.*, No. 1, 1908. One of the most interesting results of his studies is his confirmation of the native report that, until a comparatively recent period, volcanic action was still plainly manifest. The view has long been held that Kamerun has been for centuries an extinct volcano. The reports of the natives that their fathers told them a half-century ago that they had seen smoke issuing from the mountain were therefore discredited. Hassert, however, found to the northeast of Fako, the highest point of the mountain, a deep crater, to which he gave the name "Robert Meyer Crater," in honour of the man who first reported its existence, which is still in the solfataric stage. He saw issuing from it a slender column of smoke, and on a later occasion he observed a very strong smell of sulphur at the same crater, and is quite certain that he would have seen steam rising if it had not been for the high temperature of the air. Around this crater, and also in the Likombe area, he found very large fields of lava and volcanic ash, and his examination of them afforded convincing proof that they were ejected not more than fifty to one hundred years ago.

THE TURKO-EGYPTIAN BOUNDARY.—The Survey Department of Egypt has issued "A Report on the Delimitation of the Turko-Egyptian Boundary Between the Vilayet of Hejaz and the Peninsula of Sinai (June-September, 1906)." The Report is by E. B. H. Wade and gives a detailed account of the operations. The local conditions in the summer months rendered it impossible to employ a network of triangulation points. The frequent dust-haze, the unsteadiness of marks seen over the heated surface of the desert, the distortion of natural objects by mirage, and other difficulties due to working on the heated desert plateau, rendered it necessary to employ such methods as would reduce the errors due to these special conditions as much as possible. It was therefore decided to determine the latitude of a number of inter-visible points and the azimuths of the lines joining them; then to obtain the longitude of the terminal point at Rafa by exchanging chronometer signals telegraphically with the Helwan Observatory near Cairo. Topographic surveyors will be interested in the detailed account of the methods used and the operations performed to meet the special local conditions. A line of 210 kilometers was delimited in 31 days, 14 points being fixed. The topography of a belt about ten kilometers wide was also included. A map of the results accompanies the report.

BALLOON OBSERVATIONS IN EAST AFRICA.—At the suggestion of the director of the Aeronautical Observatory at Lindenberg, Prussia, Prof. Arthur Berson and Dr. Hermann Elias of the Observatory staff have been sent to East Africa to make meteorological observations in the upper air by means of balloons and kites, on the days that have been assigned for international co-operation in these

investigations. They will also spend a number of weeks in meteorological and aeronautical explorations in German East Africa (*Zeitsch.* d. Gesellschaft für Erdkunde zu Berlin, No. 6, 1908).

PROSPECTS OF THE EAST AFRICA PROTECTORATE.—The *Annual Report* of the East Africa Protectorate for 1906-7 (Colonial Reports Annual, No. 557) gives a most favourable showing of the conditions and prospects of the Protectorate. Its net trade has doubled within the past four years and amounted to over $5,250,000 in the last fiscal year. Rubber and fibre are regarded as the most important factors of future commerce supplied by indigenous products. Imported sheep are thriving well in the splendid grazing areas of the uplands and the shipments of wool have brought a good price. The improvement of the breed of native cattle by crossing them with imported bulls has been extremely successful, and East Africa is expected to become a large producer of dairy foods, for which industry a great area in the highlands supplies a green succulent herbage for most of the year. The hog industry is expected not only to supply the local market with pork, but also to send large exports abroad. The breeding of ostriches promises to become important. Many horses and mules have been imported, and some settlers in those parts of the uplands which are practically free from horse sickness are taking steps to form small breeding studs of horses. There are hopes of producing enough wheat for local markets and possibly for an export trade. The cultivation of maize has been greatly extended. Large areas on the coast and in the lake districts are admirably adapted for the cultivation of cotton and these lands are rapidly being taken up by syndicates and settlers. One of the greatest needs of the Protectorate is a direct British steamship service with the United Kingdom at regular intervals by vessels of reasonable speed. The regions with the most encouraging prospects are the highlands between Nairobi on the Uganda Railroad and the Victoria Nyanza.

THE EGYPTIAN CIRCUMNAVIGATION OF AFRICA.—The Paris correspondent of the London *Times* (Weekly Edition, No. 1, 644) writes that documentary confirmation of the legendary circumnavigation of Africa by the Egyptians, the famous Periplus mentioned by Herodotus, was announced to the French Academy of Inscriptions and Belles Lettres by the assistant curator of the Musée Guimet in Paris, M. Moret, at the last sitting of that body. It consists of a large scarab engraved for King Nechao II (610-595 B. C.) to commemorate the voyage. The substance of the text is that King Nechao II sent a messenger "to complete the circuit of the unknown land," that this messenger returned to Egypt by water after having gone round that land and that Nechao received the messenger at Bubastis—the scarab comes from there—and had a detailed report of the wonders seen during the voyage taken down from his envoy's lips." The exact date of the return of the anonymous explorer can be determined by another scarab of Nechao II which has been acquired by the Brussels Museum. It was in the twelfth year of his reign, which nearly corresponds to 599 B. C.

AMERICA.

TOPOGRAPHICAL SURVEYS IN NEW YORK STATE.—The plans adopted by the U. S. Geological Survey for topographical work this season in New York, in

co-operation with the State Engineer and Surveyor, include the completion of the Cooperstown and Delhi quadrangles and the extension of secondary control over the Neversink, Monticello, Bath, and Stony Creek quadrangles. The work on the first four of these quadrangles has been assigned to C. E. Cooke, who is assisted by W. H. S. Morey. The expense of the field work is shared equally by the State and the Federal Survey.

GEOGRAPHY AT YALE UNIVERSITY.—The Report of the President for 1908 says that plans for the immediate future at the University involve the development of courses in regional geography until there are instructors who are authorities on the geography of each of the continents. This will eventually involve the erection of a separate department of geography which will not only offer courses but will also conduct explorations in the less known parts of the world, particularly those parts where the character of the physical features has been a prominent factor in the life of a race. These expeditions should be in charge of officers of the Department and include advanced students. The Report adds:

> In European institutions Geography is a subject largely thought of and is considered of high cultural and practical value. In America the importance of the study is becoming rapidly recognized and plans are on foot for establishing departments of Geography in the leading universities.

THE RELIGION OF THE LUISEÑO INDIANS OF SOUTHERN CALIFORNIA.—This work is the result of several years of research among the Mission Indians by Miss Constance Goddard DuBois, well known through her writings on Southern California. It is printed in the University of California "Publications in American Archæology and Ethnology" (Vol. 8, No. 3). It treats of the initiation ceremonies, mourning ceremonies, ceremonial songs, myths and traditional knowledge of this tribe in San Diego Co., the Luiseño and the Diegueño being the only tribes surviving in any numbers of those formerly attached to the Franciscan Missions in California.

Though they have been fully under European influence for a century, Miss DuBois shows that at least the memory of their old life is still unaffected by civilization, though the best of the information is found only in the minds of a few old men.

The author discusses the beliefs and practices grouped about the Divinity, Chungichnish, the central figure in the Luiseño worship which, they say, came to them from the coast and the north and they transmitted it to the Diegueño. The languages of the two tribes are distinct, though they are physically similar and share in common most of their customs, arts and beliefs. Only slight development of symbolic religious expression has hitherto been discovered among the California Indians, and this fact gives special interest to Miss DuBois's account of Luiseño symbolism, especially as represented in the rope figure and in ground paintings, the latter recalling basketry patterns. She gives very full details of the ceremonies, which relate almost entirely to the commemoration of the dead or the initiation of boys and girls into the condition of tribal and religious manhood and womanhood.

CURRENTS IN THE BAY OF FUNDY.—The Department of Marine and Fisheries, Canada, has just published a report by Dr. W. Bell Dawson, entitled "Tables of Hourly Directions and Velocity of the Currents and Time of Slack Water in the

Bay of Fundy and its Approaches as far as Cape Sable," based upon investigations of the Tidal and Current Survey in 1904 and 1907. A knowledge of the currents in these outer waters is of more importance to navigation than in the more restricted part of the Bay of Fundy proper, where the tidal streams run parallel to the shores and have less tendency to set a vessel out of its course. The currents are predominantly tidal in their character, running strongly during flood and ebb in two directions, which are usually opposite. Almost everywhere the current is as strong down to a depth of thirty fathoms as it is on the surface. There are eight pages of tables and a map showing the direction of the current and its strength in knots at half tide, flood, and ebb.

EXPLORING WEST GREENLAND WATERS.—The branch of the Danish Government which manages Greenland commerce has decided to carry out an exploration of the coastal waters of west Greenland, and especially to study the question of the development of fisheries in order to provide new food resources for the Eskimos. Submarine banks extend along the coast between 63° 30′ and 68° 10′ N. Lat., and fish are known to abound in these waters. Little attention, however, has been paid to this source of wealth and it is now intended to make a careful investigation. The work will begin this summer, will be continued next year, and $40,000 have been appropriated for the enterprise. The brig *Tjalf* will carry the expedition, which will include Mr. A. Jensen, who will have charge of the zoological work, and Mr. J. N. Nielsen, who will make the oceanographic studies. (*La Géographie,* No. 1, 1908.)

ASIA.

JOURNEY THROUGH THE YANGTSE GORGES.—The German river gunboat *Vaterland* made a noteworthy ascent of the Yangtse Kiang, in the summer of 1907, to the head of navigation. The vessel showed, for the first time, the German flag at the free port of Chung-king, capital of Szechuan, having fortunately passed through the rapids that make regular navigation impossible above Ichang. Captain Toussaint made a survey of these impediments, and all the more difficult rapids, with their reefs, shallows and whirlpools, are marked on the map accompanying his report. Some of the rapids were produced at places where the channel is half choked by islands and boulders and others are the result of the shallowing of the river bed by the great quantities of sand and other detritus received from tributaries higher up the river. The most difficult navigation is between Ichang and Kweichou, the stretch from Van to Chung-king not being obstructed to any great extent.

Capt. Toussaint says that the difficulties of navigation may be overcome so that this stretch of the river will no longer be a formidable obstacle to commerce. The *Vaterland* ascended the river to the large commercial city of Sui-fu at the junction of the Min River.

THE BORDERLANDS OF TURKEY.—The condition of Turkey at the present moment furnishes a striking example of the important bearing of geographic boundaries upon human conduct and welfare. Whenever official corruption, scarcity of crops, or other disasters, whether of human or of physical origin, become intense, the people of Turkey are almost sure to break out into open violence in the

regions where physical, ethnographical, and political boundaries fail to agree. There are three such regions, one in the extreme south in Arabia where Turkish possessions abut upon independent Yemen; one far to the east where Persia and Turkey join; and the third in the west among the turbulent Balkan states. In each of these three cases the political boundary is an arbitrary line bearing no special relation to physical or ethnographical boundaries; and in each the past summer has been a period of desultory fighting, of raids, and of atrocities.

In Yemen, in spite of great difficulties, the Turks hold Sana, the recently captured capital of South Arabia; but their army, including even the officers, is discontented and disloyal, and discipline is very lax. If it were not that the Arabs, apparently because of the exigencies of their physical environment, are divided into a host of little tribes intensely jealous of one another, they could easily drive out the invaders. The Turks are mere intruders into a region which geographically is wholly separate from the Ottoman Empire. Having begun to conquer it, they find no boundary, physical or ethnographical, to help them. They must either conquer and hold the whole of Arabia Felix, or else make up their minds to constantly recurring wars so long as they defy the mandates of geography. Behind them, as well as before, there is opposition among the Arabs, an opposition which has recently been fostered by a new factor, the proposed Mecca railroad. As the Arabs see it in process of construction, they realize with great discontent that it threatens to destroy their traditional occupation of camelmen and purveyors to pilgrims bound for the holy places. When it is completed another blow will fall on the Arabs, for the large payments which the Sheikhs have been wont to receive in payment for the privilege of immunity from plunder for caravans passing through their territory will no longer be forthcoming.

In the east, the boundary between Turkey on the one hand, and Russia and Persia on the other, cuts across a rugged region without regard to the trend of the mountains or the distribution of races of Turks, Kurds, Armenians, Nestorians and others who inhabit the country. The Russians are strong enough to keep their part of the boundary in comparatively good order. The Persians and Turks cannot do so. Kurds from the Persian mountains rob a village in one of the small mountain-girt plains on the Turkish side of the border. When pursued by the Sultan's troops, they flee over the intangible boundary, and are followed by the Turks. Persian troops or officials object to this as a matter of course; fighting takes place; and an "international incident" has occurred.

In the Balkans the clash between geographic and political boundaries is more marked than elsewhere. Turks, Bulgarians, Servians and Greeks are all contending for Macedonia, and the conflict centers around the city and rich plain of Monastir. Formerly the Turks were guilty of the greatest atrocities; but during the past few years the Christian races of the Balkans have been equally guilty. The Greeks, especially, have conducted themselves in a way which, if continued, must alienate all sympathy on the part of the nations to whose intervention Greece owes her freedom.

According to the Murzsteg agreement of 1903 Macedonia is now partially under the administration of the Great Powers. The chief authority is vested in an Inspector-general responsible to the Sultan. Under him are foreign Civil Agents appointed by the Powers for "surveillance and control," and foreign officers in charge of the native gendarmerie. The signatory powers intend that with the help of these officers the country shall be brought to such a state that it can properly be put back under the ordinary rule of the Turkish authorities. As

an antecedent to the return to Turkish rule, it is intended—to quote the agreement—"as soon as the pacification of the country shall be established, to demand of the Ottoman Government a modification in the territorial delimitation of the administrative units with a view to a more regular grouping of the different nationalities."

The result of this provision of the Murzsteg agreement, which aims to be strictly geographical, has been disastrous. Each of the interested nationalities is trying to extend its sphere at the expense of the others. According to the Vienna correspondent of the London *Times*, "From personal and direct investigation of the position in the worst districts, those around Kastoria and Monastir in charge of Italian gendarmerie officers, it is possible to give a succinct account of the process of devastation and methodical murder now going on there. To the southwest of Kastoria a line of hills used to mark the ethnographical boundary between Macedonian Bulgars and Greeks. In this district the Greeks have armed bands equipped, with the clandestine protection of the Greek Government, by a fund made up by the wealthy Greeks in Greece, the Levant, Egypt, and elsewhere. The wealth of the Greeks is their greatest strength. The bands equipped and supplied by them are engaged in a programme designed to push the Greek ethnographical frontier northwards and eastwards so as to include in the Greek 'national sphere' Monastir, Prilip, and the country contained within a line from Prilip southeastwards to Seres and to the coast east of Kavalla [thus including an area extending about one degree north and south and four degrees east and west. This comprises the best of the country tributary to Salonika]. At present operations are most active around Kastoria, and here the Bulgar population is being gradually but pitilessly exterminated. Village after village has been surrounded and burned."

In other districts similar events have occurred, and the Bulgarians and Servians have followed the example of the Greeks, though not on so large a scale. In one recent instance a Bulgarian band actually seized and wounded one of the British gendarmerie officers, Col. Elliot, in an attempt to carry him off to hold for ransom.

The problem of Macedonia, like that of Yemen and the Persian frontier, is fundamentally geographic. Peace and the reforms and progress which peace alone can bring, cannot come permanently until some method is devised of harmonizing physical, ethnographical, and political boundaries. It may be that the only way to do this will be by forced or assisted migration. To-day Bulgaria is getting rid of her non-assimilable Mohammedan and Turkish elements by means of their peaceable migration to Turkey, where they are welcomed and given land on which to settle. A similar process could probably be carried out in Macedonia without undue hardship to the people, if the Powers would impose upon Turkey some truly geographic plan whereby members of each race should find special privileges and facilities for acquiring land in distinct provinces with recognizable physical boundaries. E. H.

Transport by Automobile in Asiatic Turkey.—The *Konstantinopler Handelsblatt* notes the growing use of automobiles for the transportation both of passengers and freight in Turkey in Asia. Many of the towns have very insufficient means of communications with one another and with the seaports and trade is almost paralysed by this deficiency. In various cities of the empire, societies

have been formed to provide automobiles for the freight and passenger traffic. It is also intended to supply postal communications between the western and eastern parts of the empire by means of automobiles. The machines needed to establish the service between Bagdad and Bassorah have been ordered from Europe and regular trips between the two cities will begin this year. Coury, in Anatolia, is also to be connected by automobile with the port of Ialova on the Sea of Marmora, especially for the tourist traffic. Extra large and strong machines are required for the service in view of the very poor roads and the large amount of business to be done.

MANILA AND CAVITÉ RAILROAD.—Railroad communication has been established between Manila and Cavité, the naval station, 8 miles to the southwest of the capital by water. The length of the line is about 26 miles. The country traversed is largely given up to the salt industry and the neighbouring districts have a moderately rich rice production. Intercourse between the two places has hitherto been restricted by the poor facilities and the discomfort of crossing the bay.

EUROPE.

CHANGES IN THE PO DELTA.—Dr. Mario Baratta published in the December number of the *Rivista Geografica Italiana* the first part of his observations concerning changes in the Po delta from 1893 to 1904. The maps of the delta published in those years plainly show the amount of its increase. Two influences combine to bring about this gradual extension of the delta into the Adriatic. One is the deposition of the river sediments and the other is the wearing away of adjoining coasts by the sea. The final result of these factors is to build out the delta coastline at the rate of about 70 to 80 meters a year; at the mouth of the Bocca della Pila, about 136 meters in the past eleven years. The streams reaching the sea on the north coast of the delta are small and the delta is growing but slowly in that direction, while the advance seaward at the mouths of the Pila, Tolle and Gorro streams is very important. These recent investigations will serve as a good starting-point for future studies.

LECTURER IN GEOGRAPHY AT EDINBURGH UNIVERSITY.—A lectureship in geography has been established in the University of Edinburgh. The Royal Scottish Geographical Society is to be congratulated upon the success of its persistent efforts to secure this recognition for geography. Mr. George G. Chisholm has been appointed lecturer. Thus he returns to the institution where he graduated both in Arts and Science. Mr. Chisholm is well known as the author of important geographical works, notably "The Handbook of Commercial Geography," a standard authority on the subject.

A NEW SPANISH CABLE.—The Spanish Government has called for public tenders for the construction and installation of a new submarine cable from Cadiz to Teneriffe, thence to Gran Canaria, Palma and Gomera, from the latter island to Hierro, from Gran Canaria to Fuerteventura and thence to Lanzarote. The cost is expected to be about $800,000. While the archipelago is already in cable connection with Europe the various islands, thus far, have not been joined by telegraph.

OCEANIA.

NEW VOLCANIC OUTBURST ON SAVAII.—A Press despatch from Auckland, dated June 15, says that the remarkable volcano which was developed in that island in August, 1905, began another period of extreme activity on May 10. The flow of lava was the greatest in the history of the island. It amounted to about 2,000 and 3,000 tons a minute and streamed down in a great river from six inches to six feet deep, stretching in an almost continuous sheet over a width of eight miles. On reaching the coast it flowed over the cliffs into the sea causing steam to rise in immense quantities. The lava destroyed many native houses near the coast and for a time threatened the town of Matatua.

It will be remembered that in August, 1905, volcanic vents were opened in the bottom of a deep valley, about 8 miles from the northeast coast of Savaii. No crater had been previously found in the valley, to which the natives often resorted for hunting. In a few months the outpouring of lava and volcanic ash formed a mountain over 2,000 feet high and the valley was completely obliterated by a ridge of lava, over 1,000 feet thick. The eruptions were very violent during the remainder of 1905 and throughout 1906, but the volcano was almost quiescent last year. No natives were living in the interior and most of the inhabitants of the northeast coast have fled to the southern part of the island.

AN ANTHROPOLOGICAL EXPEDITION IN THE PACIFIC.—In December last the *Hamburgische Wissenschaftliche Stiftung* decided to send an expedition to the Pacific for anthropological and ethnological research and collections. Prof. Dr. Thilenius, Director of the Hamburg Anthropological Museum, organized the enterprise and the steamer *Peiho*, 900 tons, was hired for the work. The scientific staff consists of Prof. Dr. Fülleborn, the East African explorer, leader and physician; Dr. Duncker, of the Natural History Museum of Hamburg, collections of natural history; Dr. Reche, anthropological, and Dr. Müller-Wismar, ethnological studies; Mr. F. E. Hellwig, collections of anthropological and ethnological material; Mr. H. Vogel, photographic and kinematographic departments. The expedition reached Hongkong in June and proceeded to the Bismarck Archipelago, where it will begin its labours. The *Peiho* has a spacious saloon and four staterooms on deck, machinery for ice freezing and the distillation of drinking water and plenty of space for workrooms, coal, and collections.

GOLD IN THE TERRITORY OF PAPUA.—The Annual *Report* (1906-7) of the Administrator of what was formerly British New Guinea announces that the country will hereafter be known as the Territory of Papua and will be under the government of Australia. The *Report* gives the total value of the gold mined in the Territory (1888-1907) at $4,679,155. The number of miners engaged in the year 1906-7 were 192 whites and 905 natives. The known extent of the auriferous areas is almost conterminous with the country thus far explored. Gold has been discovered on the upper reaches of the Fly River, in the extreme northwest of the Territory, and at Milne Bay, Woodlark Island, and the Louisiade Archipelago in the extreme southeast. All the gold fields derive their wealth from huge upraised masses of metamorphic rocks and crystalline schists, that form the axis of the great mountain chains running from one end to the other of the Territory and reappearing in the D'Entrecasteaux and Louisiade groups. In all the rivers flowing north and south from the main range gold in greater or

lesser quantities has been found, and it is therefore conjectured that the whole of this mountainous area, stretching through the Territory for 700 miles, is more or less auriferous. No auriferous reef or lode has yet been found in the gold fields of the mainland. All the auriferous areas so far discovered on the mainland are north of the Owen Stanley Range. There is, however, a large area of virgin country on the western slopes and foothills of the main range of a geological character believed to be identical with that of the Yodda and Gira gold fields. The miners are anxious to prospect this area, but the very large expense of equipping a prospecting party has proved an insuperable obstacle. A six-months' prospecting tour would cost probably $2,500. All supplies must be carried, the miners must be well armed, against possible hostile natives, tracks have to be cut through dense jungle and thick undergrowth impedes the search for minerals.

POLAR.

COMMANDER PEARY'S PLANS.—Mr. H. L. Bridgman, Secretary of the Peary Arctic Club, writing in the *Standard Union,* Brooklyn (July 12), summarizes statements of the explorer's plans, as he has made them public, to the effect that Peary not only hopes to reach the north pole, but also proposes explorations both east and west along the Arctic coasts so that when he returns definite knowledge of the whole of the Greenland coast and of all to the westward, beyond the now unknown Crocker Land, will have been obtained. The increase of his field scientific force, if the conditions are favourable, will enable Peary, not only to accomplish this geographical work but, under the commission given him by the U. S. Coast and Geodetic Survey, he is likely to bring back results relating to tidal currents and studies of other physical conditions of the whole North American segment of the Arctic.

MR. STEFANSSON'S PROGRESS.—A letter from Mr. V. Stefansson dated "Fort Smith, on the Slave River, June 9," reports that he was then a month ahead of his travelling schedule of two years ago when he made his first visit to the Arctic coast of America to live among the Eskimos. He and his companion, Dr. Anderson, the biologist, were making their way north sometimes by rowboat and again by canoe or flat-bottom freight scow. To Fort Smith they travelled with officials of the Hudson's Bay Company, but were to start on June 10 for Fort Resolution on Slave Lake in company with a party of hunters bound for Bear Lake.

Mr. Stefansson thought it probable that somewhere on the Mackenzie, the Hudson's Bay Company's steamer would overtake them about the middle of July and carry them to Fort McPherson, a little south of the head of the Mackenzie delta. Dr. Anderson was improving the opportunity to collect zoological specimens by the way as they were making frequent stops of one or more days. Mr. Stefansson's plans for his present expedition among the Eskimos were outlined in the BULLETIN this year (March, pp. 174-5; May, p. 292).

ARCTIC EXPEDITIONS SENT FROM THE AMERICAN COLONIES.—Mr. Edwin Swift Balch has a paper with this title in the *Pennsylvania Magazine of History and Biography* (No. 124, Oct., 1907), in which he shows that there was a healthy spirit for geographical research among the American colonists. About the middle of the eighteenth century, he says, several expeditions were sent from the English

colonies of America towards the Arctic regions. They appear to have originated mainly from a desire to find a northwest passage for the sake of commerce.

The earliest voyage of an American vessel to the north, of which Mr. Balch has found record, is that of a privateer from New York which must have been off the Labrador coast before 1750. Captain Swaine in the journal of his voyage of 1753 tells of meeting an English "snow" under command of Captain Goff off the Labrador coast, and the mate of that vessel asserted that he had made a trip in the long boat on the coast of Labrador to latitude 57° 14′ and that one day he saw some Eskimos and that another time he fired at some Eskimos with a blunderbuss. Captain Swaine evidently thought these Eskimos were timid and hostile as the result of their treatment by some whites and he says:

> By a Privateer from New York, some years since, the first offense was given. Those who have gone have done nothing to mollify or abate this enmity and revenge.

In Mr. Balch's opinion this seems to be proof that at least one ship and perhaps more went from the America colonies to the Labrador coast several years before Captain Swaine.

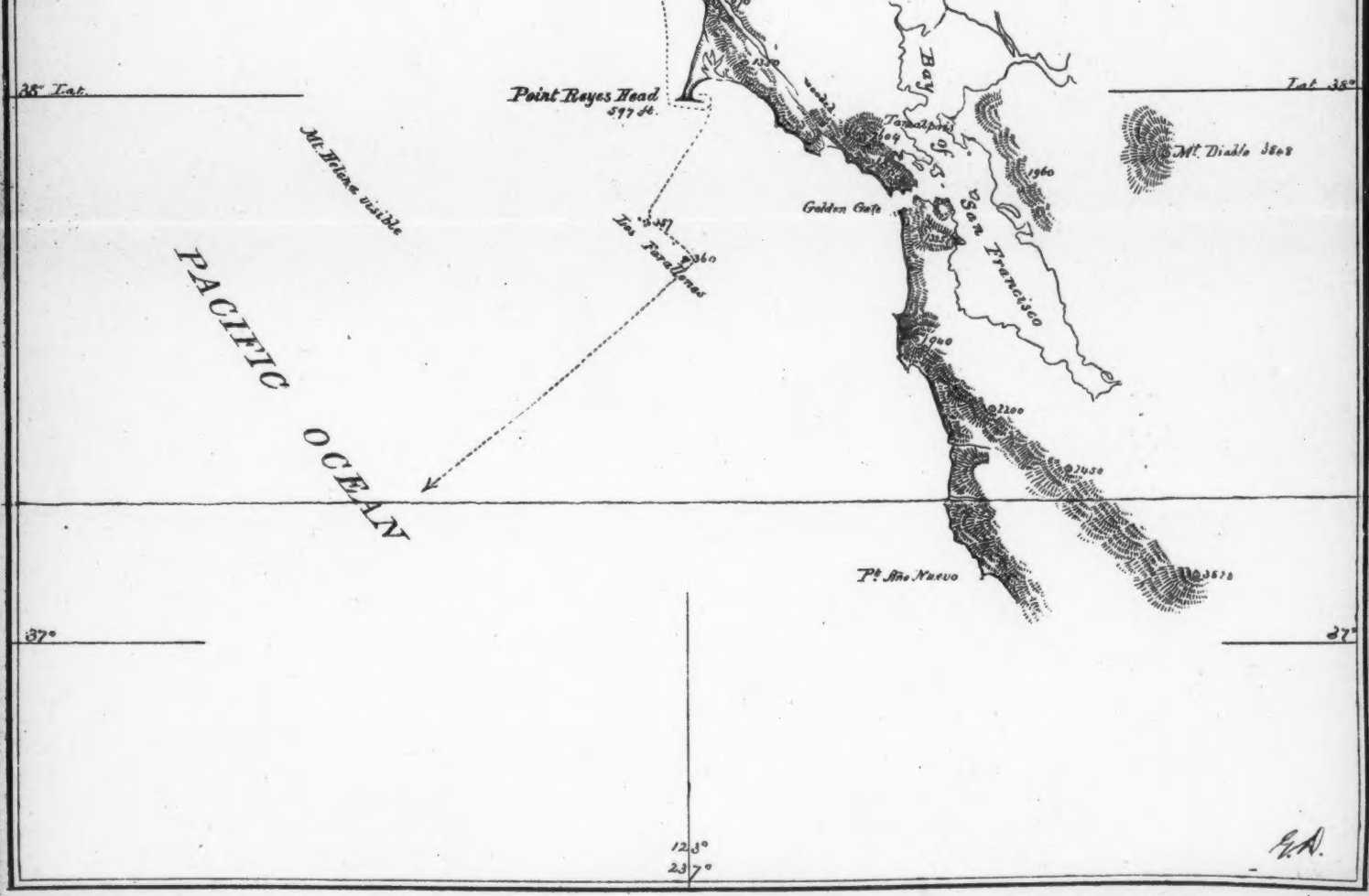
Captain Swaine's expedition of 1753 was the second colonial expedition on record. It was a purely commercial venture in search of a northwest passage. Fitted out in Philadelphia it was chiefly an enterprise of that city, though merchants of Maryland, New York, and Boston also contributed to the fund. Fifteen men were in the party, and they had a schooner of sixty tons, named *The Argo*. She sailed from Philadelphia on March 4, 1753, cruised northward to latitude 63°, in the effort to get around the floe ice to the west, and finally pushed through it into Hudson Strait, making Resolution Island, but was forced out again by the driving ice. Later, she explored the Labrador coast between 56° and 55° N., finding six inlets, to the heads of all of which the party sailed, making a chart and preparing an account of the country. Captain Swaine discovered a fine fishing bank, six leagues off the coast, between 57° and 54° N. An accident to the vessel compelled her to return home, where she arrived early in November.

The third expedition in search of a northwest passage sailed the same year, but Mr. Balch has found nothing about it except a short passage in Captain Swaine's journal, in which Captain Goff is reported as saying that on July 9 he joined Captain Taylor in a sloop of thirty-five tons "fitted out from Rhode Island to go in pursuit of a northwest passage, and, if not successful, to come down on the coast of Labrador."

In 1754, another expedition was sent from Philadelphia under Captain Swaine in search of a northwest passage. Three of the men were killed by the natives on the Labrador coast, and the party returned without success.

As Mr. Balch remarks, these expeditions did not amount to much as compared with polar discovery in the nineteenth and twentieth centuries. At least one Arctic coast, however, the northeast coast of Labrador, was probably first explored by Captain Swaine, an American colonial, and he should henceforth be remembered among Arctic voyagers. "Moreover, as there are at least four recorded voyages, it is probable that there were others which were either unrecorded or whose records have escaped notice."

Ice in Arctic Seas in 1907.—The Danish Meteorological Institute continues the publication of the annual summary of the Arctic ice conditions, begun several years ago on the invitation of the Seventh International Geographical Congress. The summary for 1907 gives six polar charts showing the ice conditions in the



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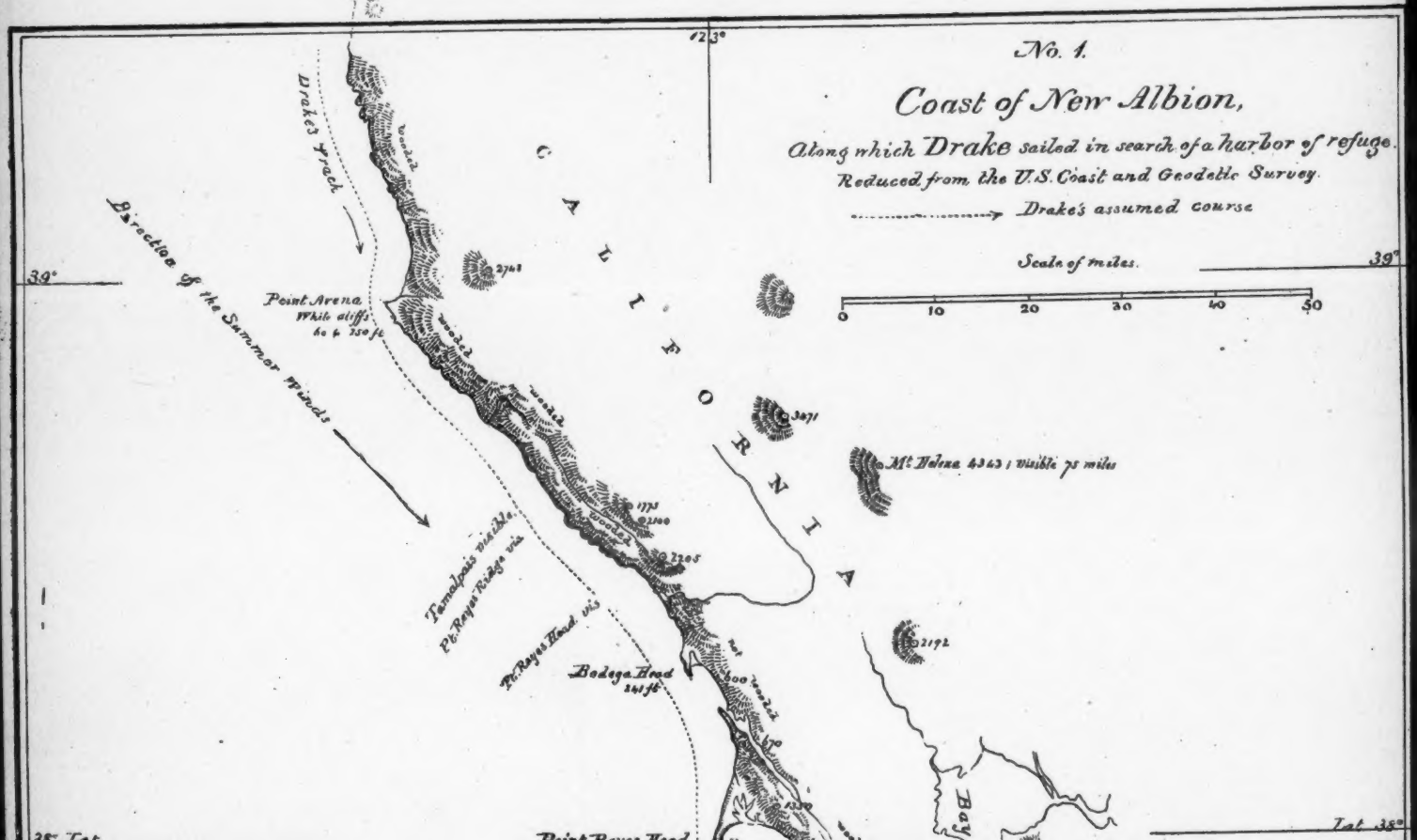

No. 1.
Coast of New Albion,
Along which Drake sailed in search of a harbor of refuge.
Reduced from the U.S. Coast and Geodetic Survey.
Drake's assumed course
Scale of miles.
0 10 20 30 40 50
123°
39°
38°
Lat. 38°
CALIFORNIA
Drake's Track
Direction of the Summer Winds
Point Arena
White cliffs
60 & 250 ft
Mt Helena 4343 / visible 75 miles
Farralones visible
Pt Reyes Ridge vis
Pt Reyes Head vis
Bodega Head
141 ft
Bay

Cuchilla Grande, 1350 ft
S. 64° E. true 20 miles
Mt Tamalpais 2604 ft
S. 60° E true 35½ miles
Beyond this low land lies
Drake's Anchorage
Point Reyes Head 597 ft.
S. 21° E. true 17 miles

No. 2.

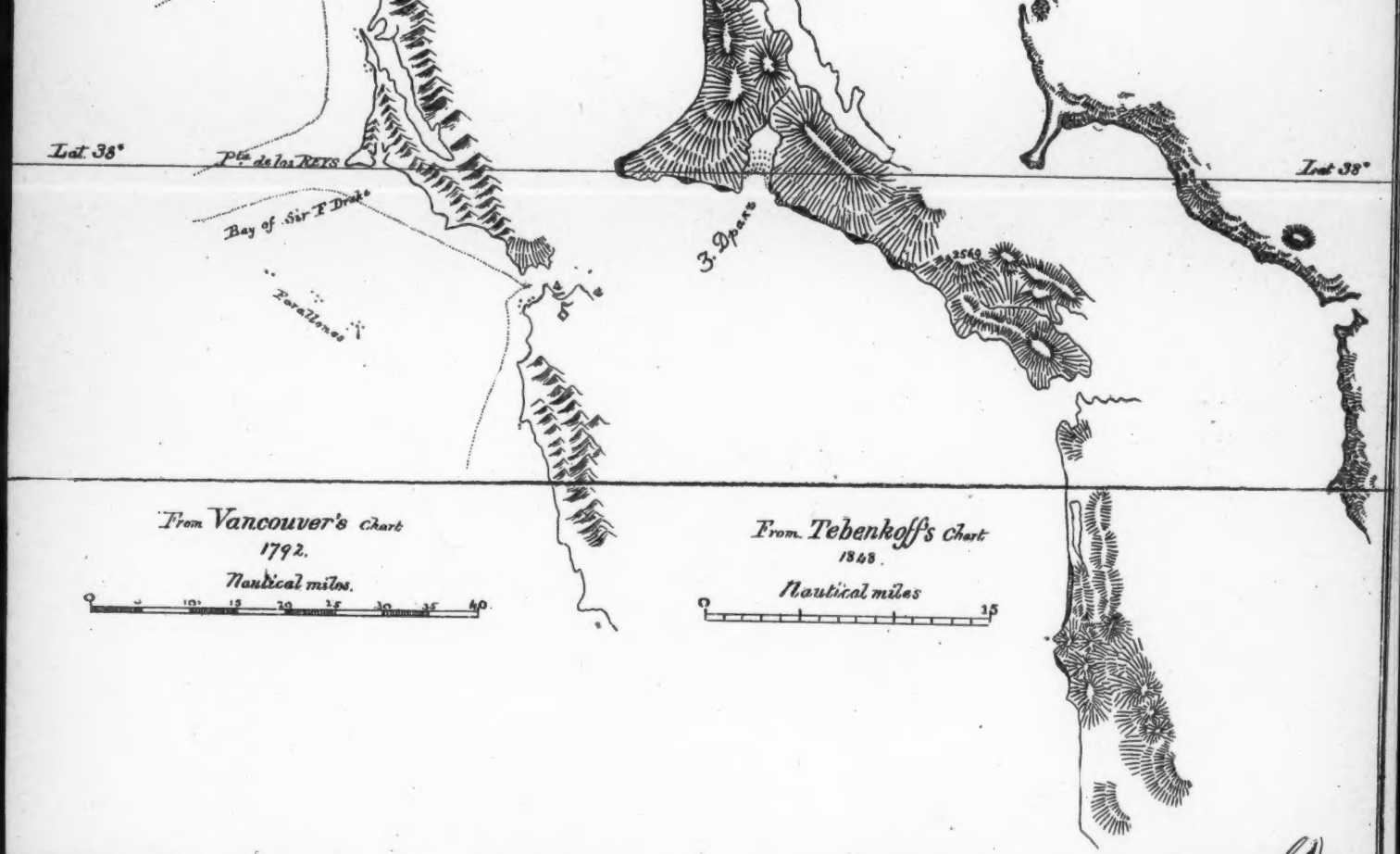
Landfall of Point Reyes Head

showing as an Island

As first seen by Drake June 1579

REPRODUCED FOR THE AMERICAN GEOGRAPHICAL SOCIETY, AUGUST 1, 1908, BY PERMISSION OF THE CALIFORNIA HISTORICAL SOCIETY.

Cuchilla Grande, 1350 ft
S. 64° E. true 10 miles
Mt Tomalpais 2604 ft
S. 60° E. true 35½ miles
Beyond this low Land lies
Drake's Anchorage
Point Reyes Head 597 ft.
S. 21° E. true 17 miles



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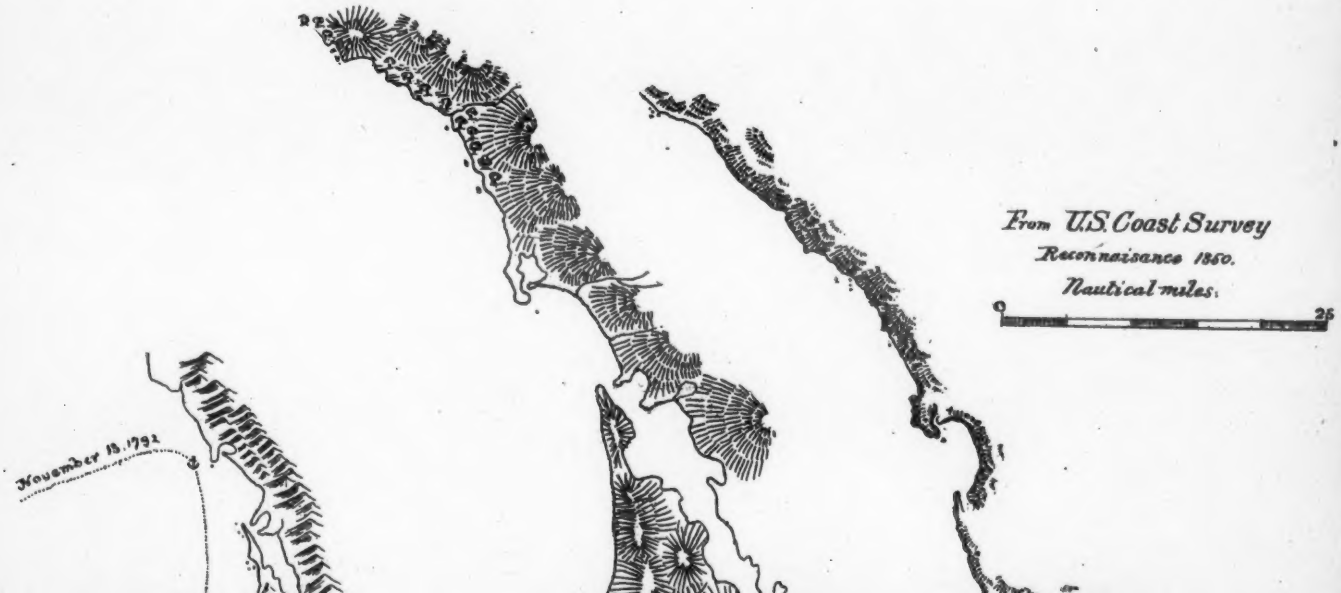
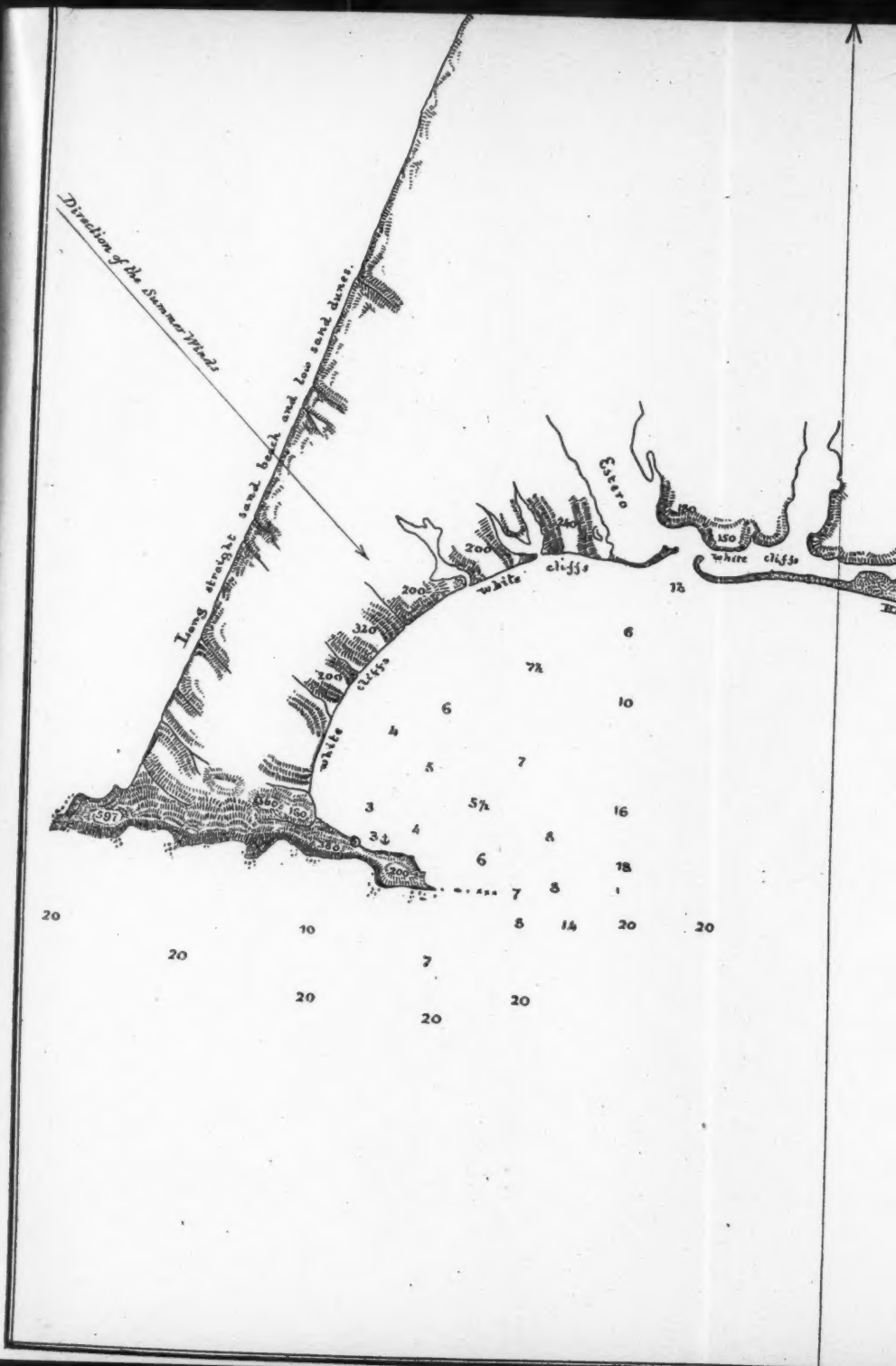
No. 3

Drake's Bay

from the Charts of Vancouver 1792.
Tebenkoff 1848.
U. S. Coast Survey 1850.

Same scales as Originals.




Direction of the Summer Winds
Long straight sand beach and low sand dunes.
Estero
White cliffs
White cliffs
White cliffs
1597
150
200
320
100
240
180
78
6
7½
10
4
6
5
7
3
5½
16
3½
4
8
6
18
7
8
1
20
10
8
14
20
20
20
7
20
20
20

No. 4

DRAKE'S BAY

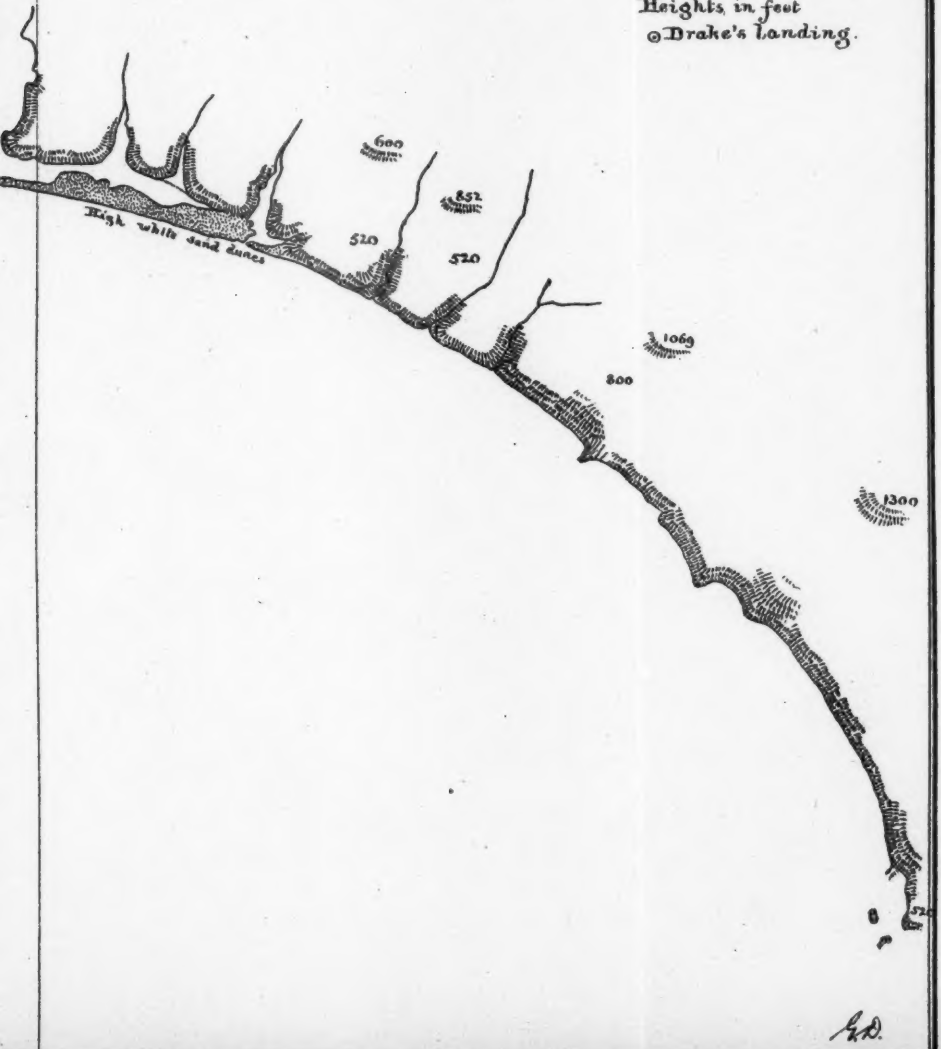
reduced from the

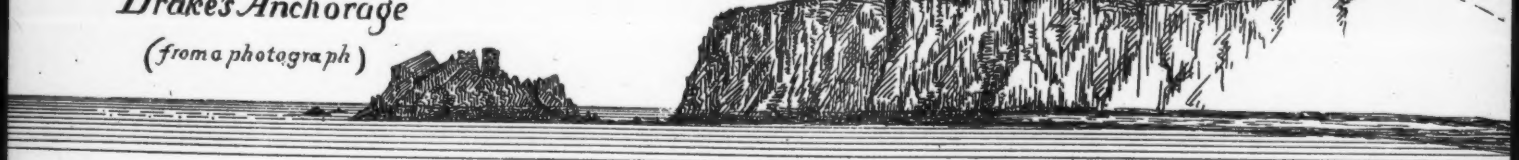
U.S. Coast and Geodetic Survey.

Scale of Nautical miles.

0 1 2 3 4

Soundings in fathoms.
Heights in feet
⊙ Drake's Landing.





Drake's Anchorage

(from a photograph)

Reef. Chimney Rock South (true) ½ mile. 200 feet high.

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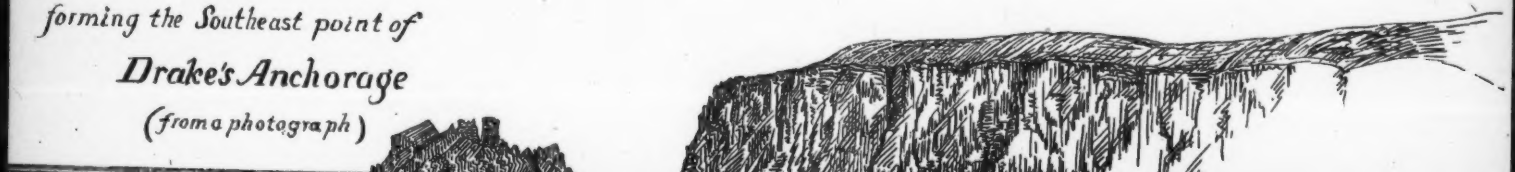
No. 5.

The Eastern Promontory of
Point Reyes Head
forming the Southeast point of
Drake's Anchorage
(from a photograph)



No. 6

Ms. Chart No. 85 Cod. Iconog. 139.

Royal Library Munich

Same scale as Original

Dotted lines in pencil in Original.

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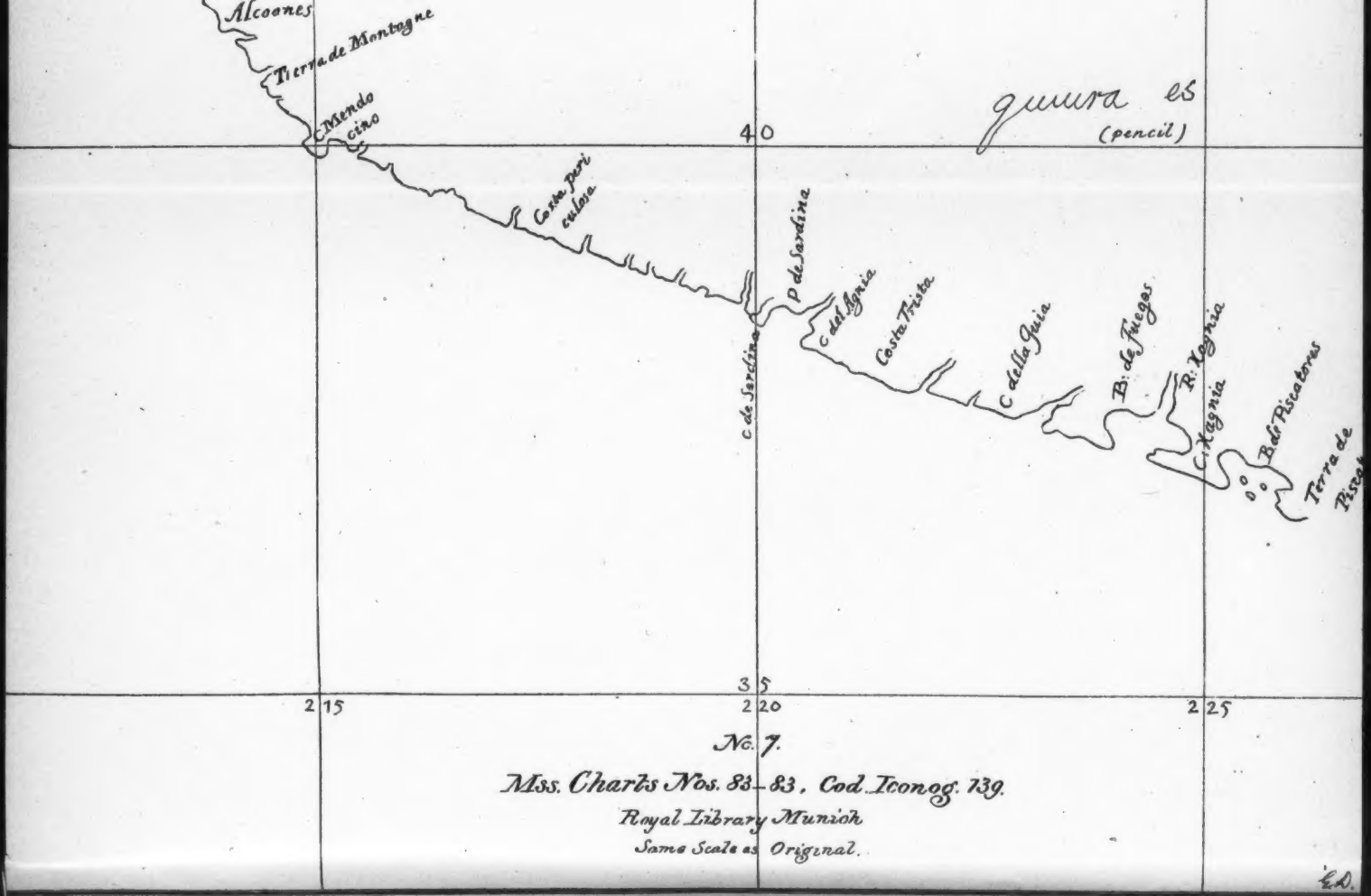
40
Mendocino
C Mendocino
Il Regno di
Quivera
AMERICA
Maiestrade
B di Men
docino
B di Quivera
Costa di Mendocino
Non Maruigliate
(as in the text
Var. M 10 gr. 1/2
Greale
Costa di
Sendin
Le venta Maristrale
Baia



No. 7.

Mss. Charts Nos. 83-83, Cod. Iconog. 139.

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Same Scale as Original.

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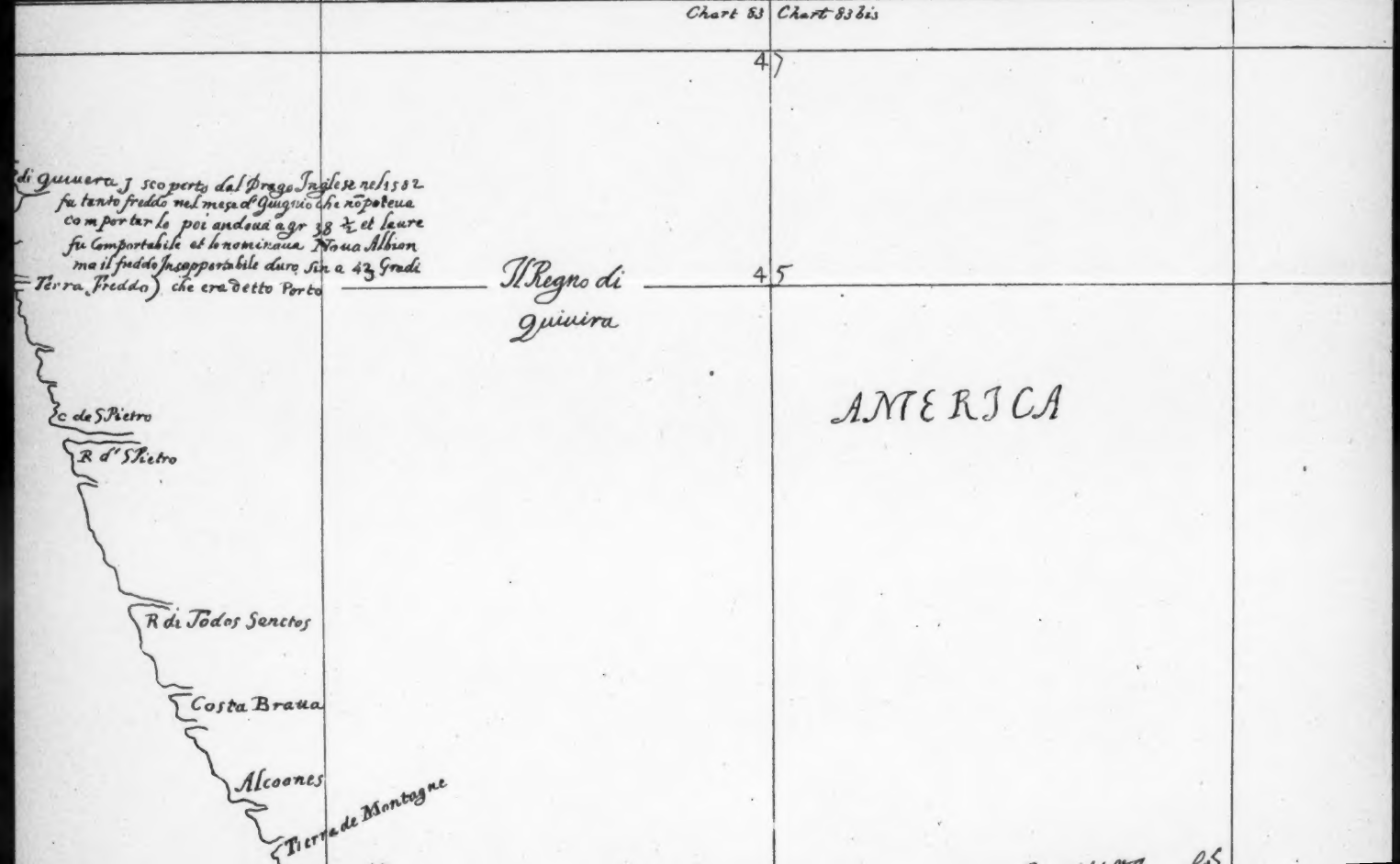
di Guinea
I scoperto dal Drago Inglese nel 1582
fu tanto freddo nel mese di Giugno che nō poteua
comportar le poi andoua a gr 38 ½ et laure
fu Comportabile et lo nominaua Nouua Albion
ma il freddo Insopportabile duro sin a 43 Gradi
Terra Freddo) che era detto Porto
Il Regno di
Guinea
AMERICA
C de S Pietro
R d' S Pietro
R di Todos Senctos
Costa Braua
Alcoones
Tierra de Montagne

No. 8.
Copy of part of the
Map of Hondius 1595
British Museum
Same Scale as Original

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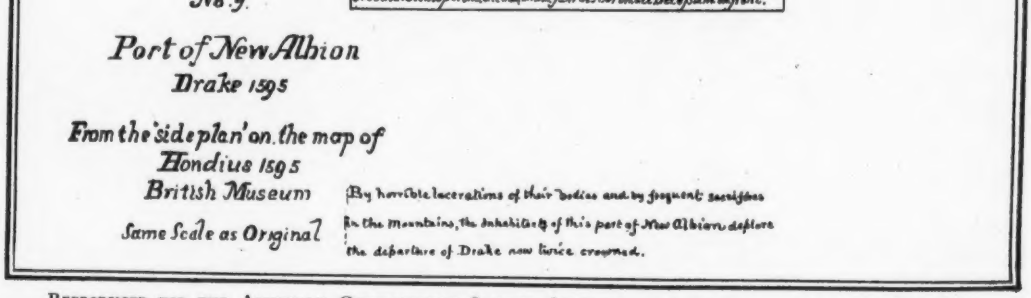
ANIAN
ARCTICVS
AMERI
Hic præ ingenti frigore in Australi
ranarli cursus est lat. 42. dies 5 Iunij
NOVA


No. 5.
Port of New Albion
Drake 1595
From the 'side plan' on the map of
Hondius 1595
British Museum
Same Scale as Original
By horrible lacerations of their bodies and by frequent sacrifices
in the Mountains, the inhabitants of this part of New Albion deplore
the departure of Drake now twice crowned.

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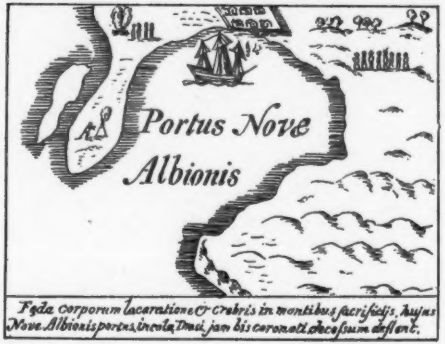
Portus Novæ
Albionis
Fœda corporum laceratione & Cruoris in montibus sacrificijs, hujus
Novæ Albionis portus incolæ Drak. jam bis coronati decessum dolent.

No. 9.

Port of New Albion
Drake 1595

No. 10.

Part of the Chart of Vizcaino, 1602-3.

Sutil & Mexicana, 1802.

from State Department, Washington

Same Scale as Original.

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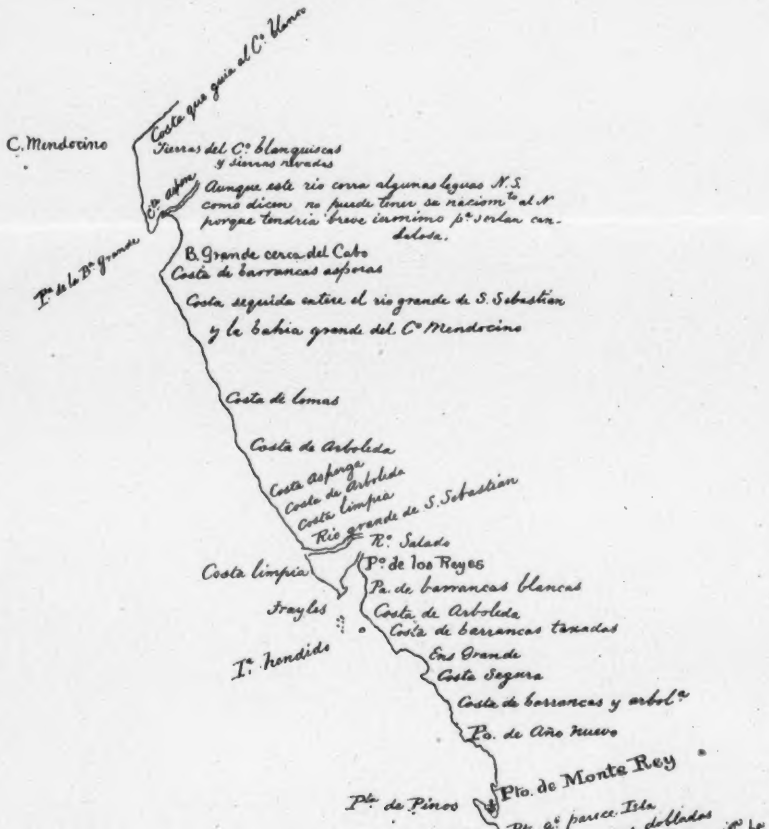
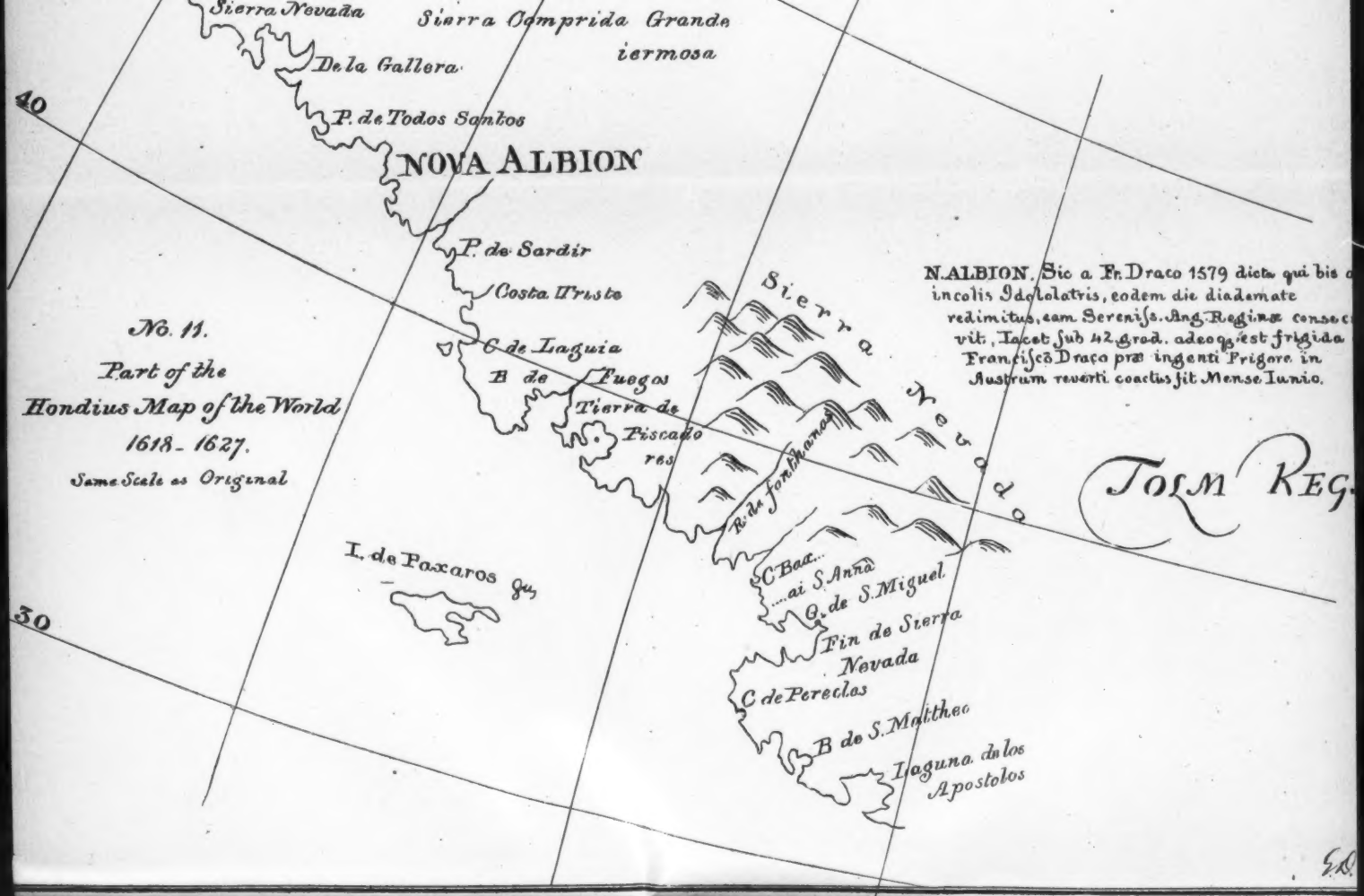
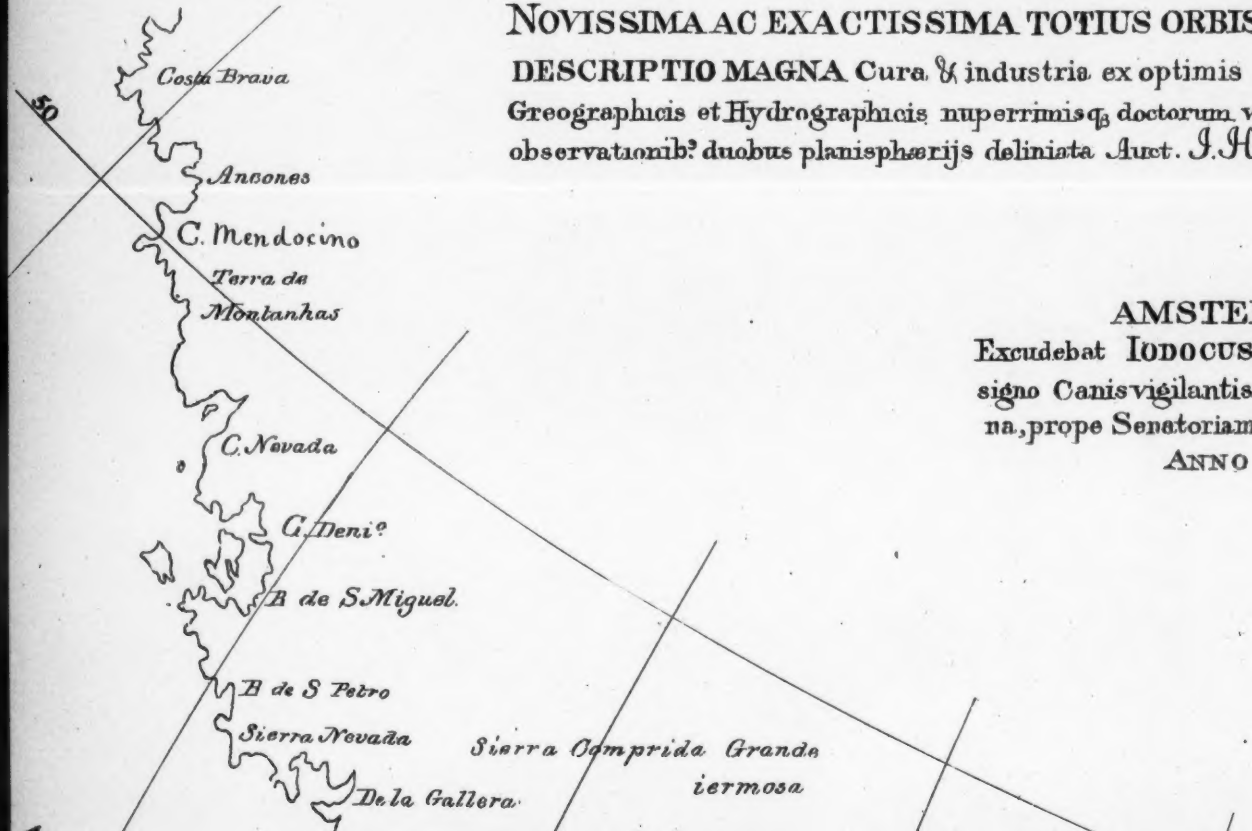

Costa que guia al C.o blanco
C. Mendocino
Tierras del C.o blanquiscas y sierras nevadas
R.o astoria
Aunque este rio corra algunas leguas N.S. como dicen no puede tener su nacim.to al N. porque tendria breve i.mo p.o Sorlan cadalosa.
P.to de la B.a grande
B. Grande cerca del Cabo
Costa de barrancas asperas
Costa seguida entre el rio grande de S. Sebastian y la bahia grand. del C.o Mendocino
Costa de Lomas
Costa de Arboleda
Costa Aspera
Costa de Arboleda
Costa limpia
Rio grande de S. Sebastian
R.o Salado
Costa limpia
P.o de los Reyes
Pa. de barrancas blancas
Costa de Arboleda
Costa de barrancas tanadas
Frayles
I.a hondida
Ens Grande
Costa Segura
Costa de barrancas y arbol.a
P.o de Año nuevo
Pto. de Monte Rey
P.a de Pinos
P.to q.e parece Isla
dobladas

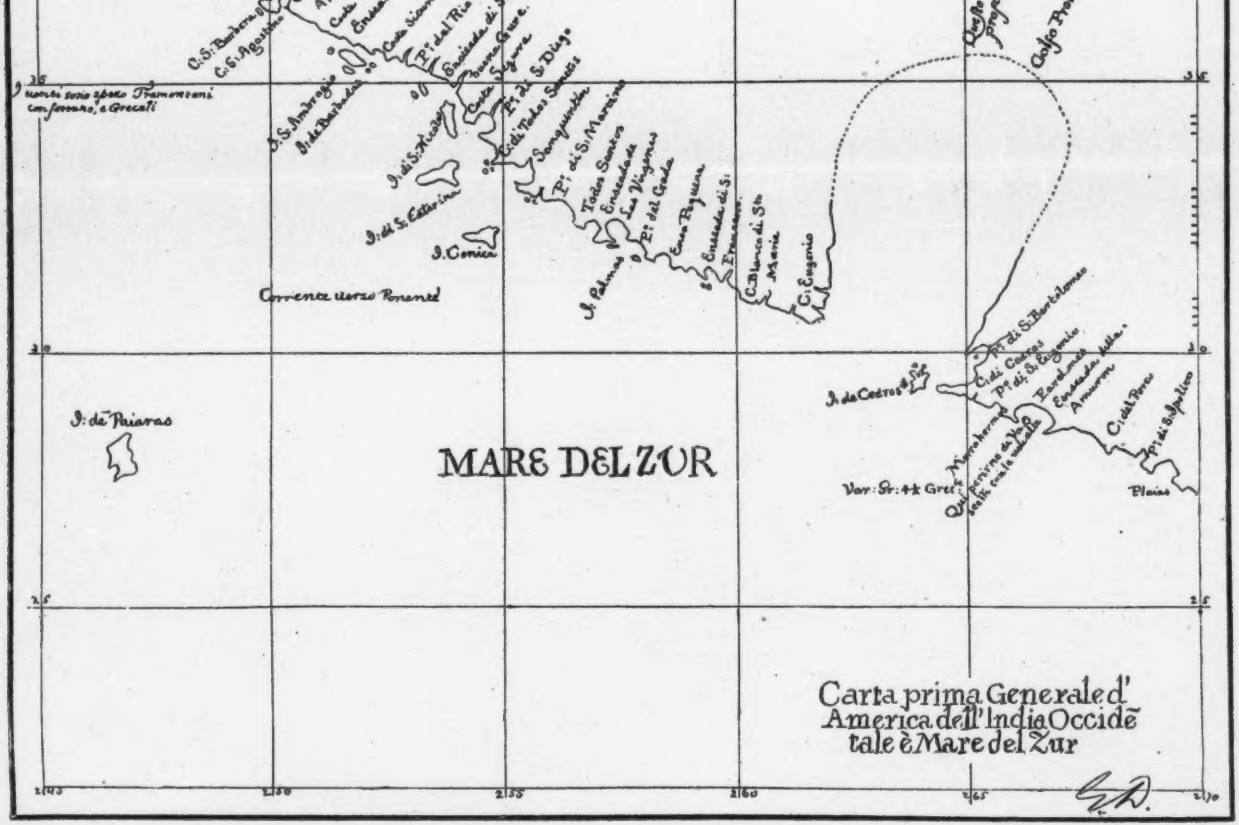


REPRODUCED BY THE AMERICAN GEOGRAPHICAL SOCIETY, AUGUST 5, 1908, BY PERMISSION OF THE CALIFORNIA HISTORICAL SOCIETY.



NOVISSIMA AC EXACTISSIMA TOTIUS ORBIS TERRARUM DESCRIPTIO MAGNA Cura & industria ex optimis quibusq; tabulis Greographicis et Hydrographicis nuperrimisq; doctorum virorum observationib: duobus planisphærijs deliniata Auct. J. Hondio.

AMSTELODAMI
Excudebat IODOCUS HONDIUS sub signo Canis vigilantis in Platea Vitulina, prope Senatoriam Domum.
ANNO 1618.



Reproduced for the American Geographical Society, August 1, 1908, by permission of the California Historical Society.

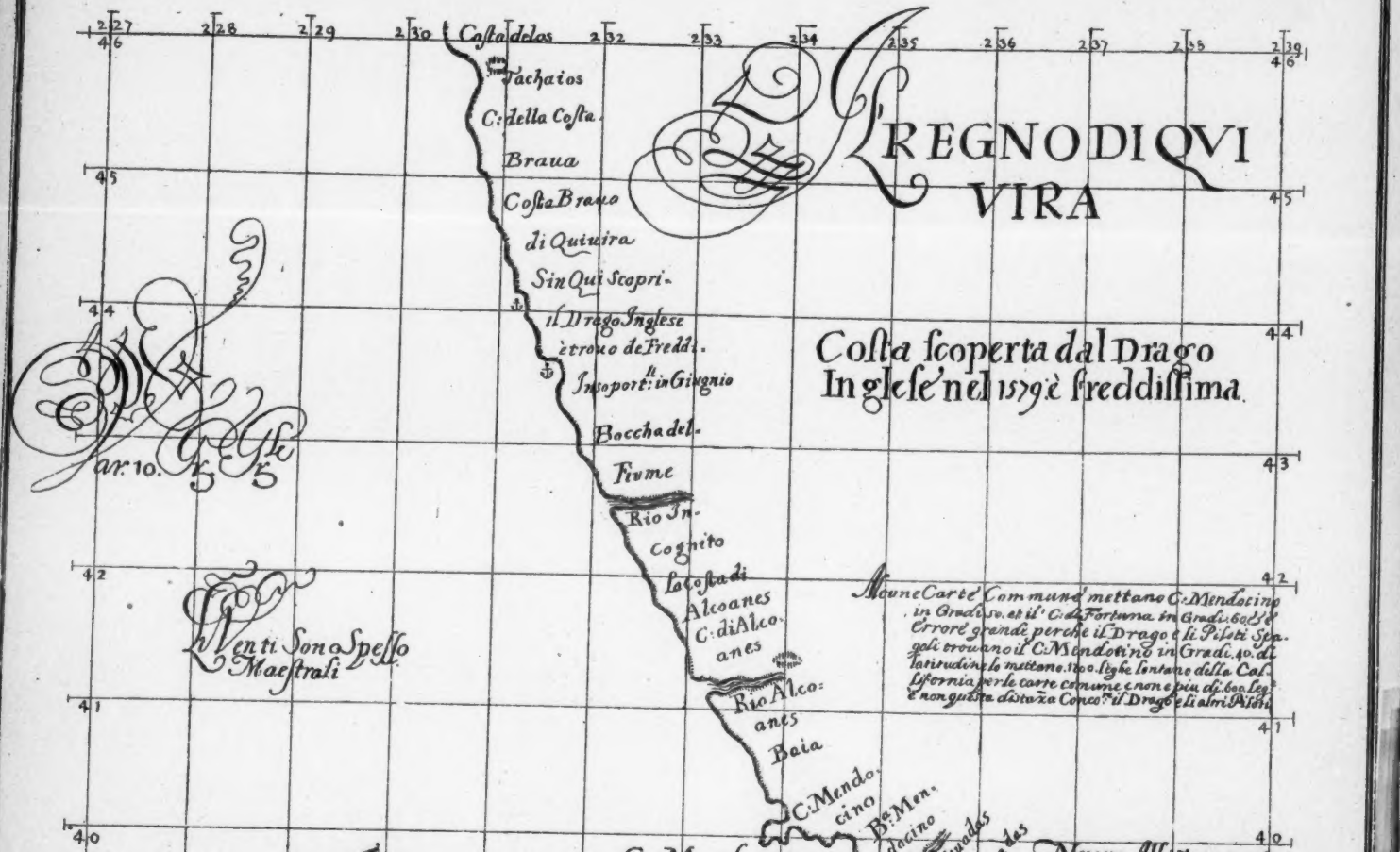
No. 12.

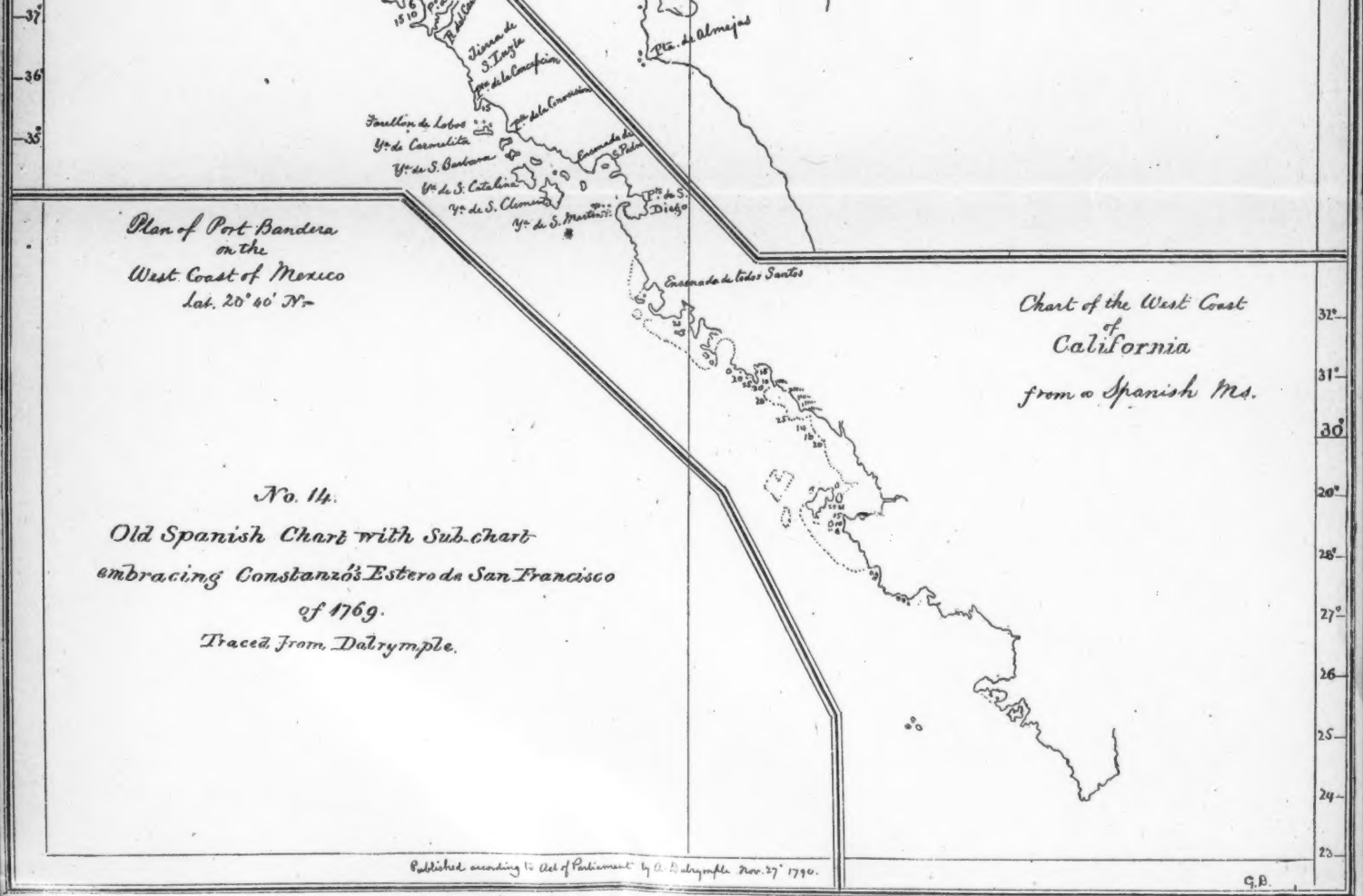
Sub-map of the Carta prima Generale,
"Arcano del Mare" 1647.

Same Scale as Original.

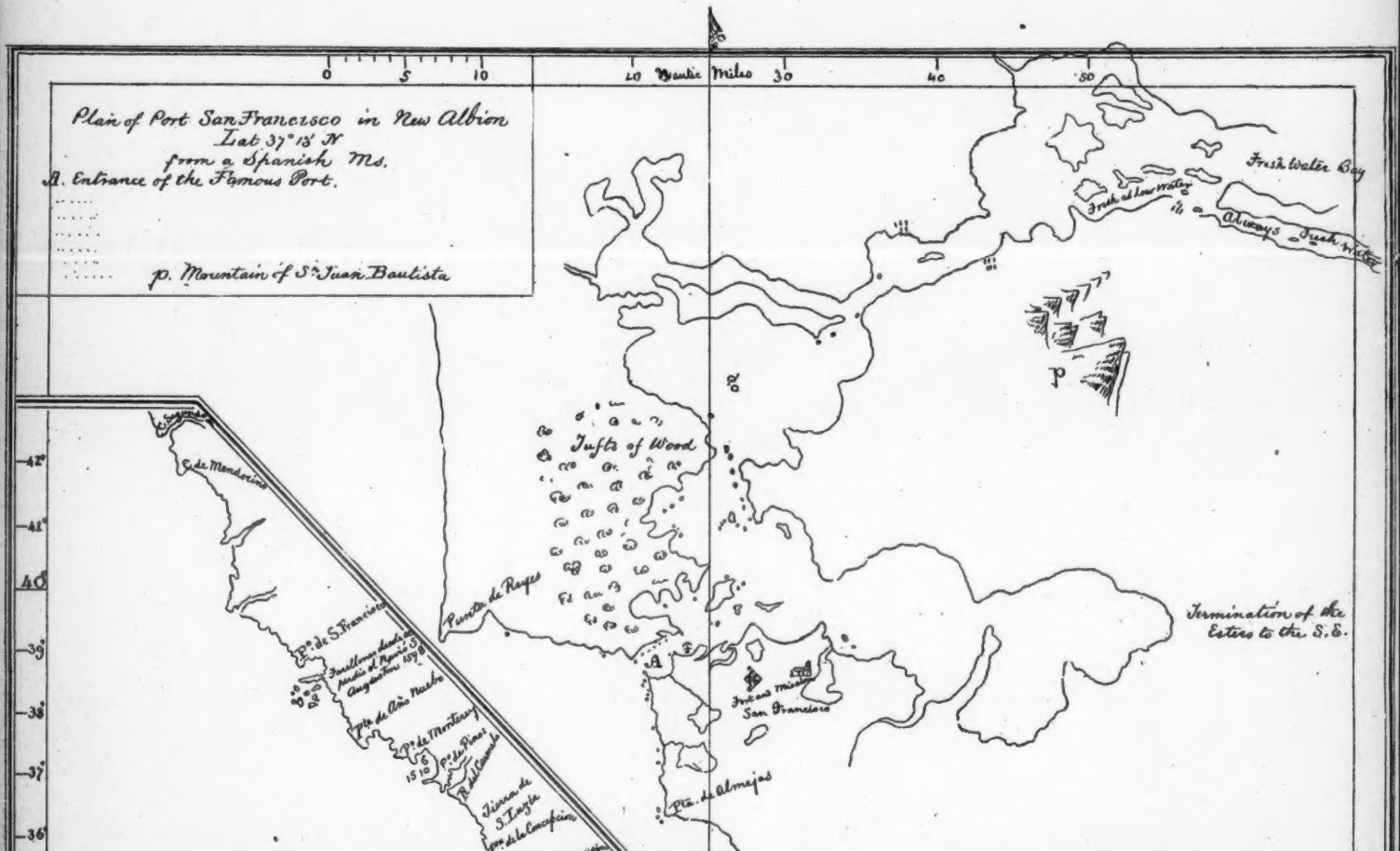
C. Mendocino
Nuoua Albiõ scoperta dal Drago Inglese nel 1577.
Var.g Gr. Gr.le
L'MARE D'AME
RICA OCCIDENTALE
Carta particolare dello stretto di Iezo fra l'America è l'Isola Iezo.
No. 13. From the "Arcano del Mare" 1647.
Same Scale as Original.

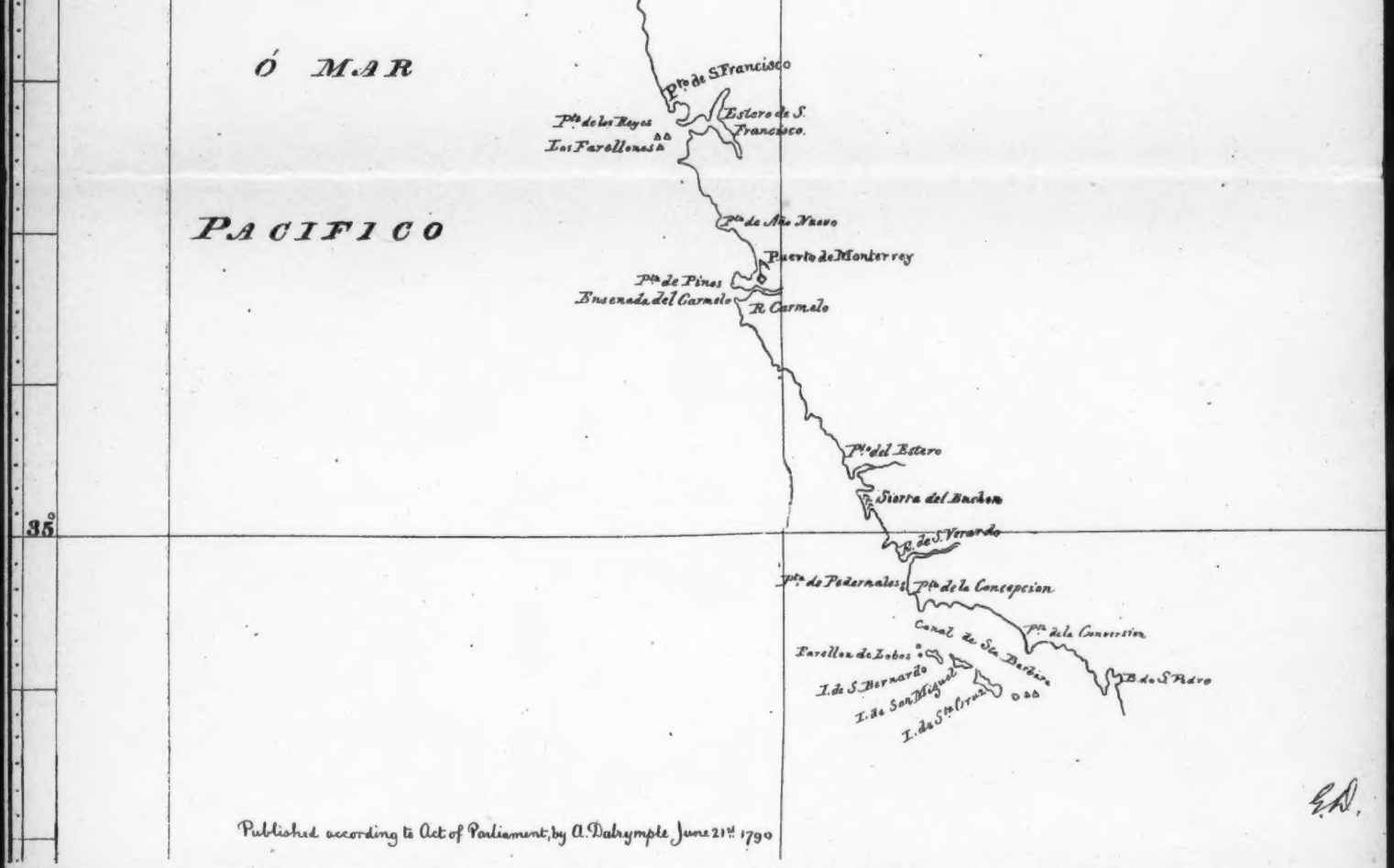
REPRODUCED FOR THE AMERICAN GEOGRAPHICAL SOCIETY, AUGUST 1, 1908, BY PERMISSION OF THE CALIFORNIA HISTORICAL SOCIETY.


Costa delos
Tachaios
C: della Costa
Braua
Costa Brauo
di Quiuira
Sin Qui Scopri-
il Drago Inglese
è trouo de Fredd.
In so port: il in Giugnio
Bocca del-
Fiume
Rio In-
Cognito
la Costa di
Alcoanes
C: di Alco-
anes
Rio Alco-
anes
Baia
C: Mando-
cino
Bª Men-
docino
Jar. 10.
I Venti Sono Spesso
Maestrali
Costa scoperta dal Drago
Inglese nel 1579 è freddissima.
Moune Carte Commune mettano C: Mendocino
in Gradi 39. et il C: de Fortuna in Gradi 60. Et
Errore grande perche il Drago e li Piloti Spa-
goli trouano il C: Mendocino in Gradi 40. di
latitudine, lo mettono 1200. leghe lontano della Cal-
lifornia, per le carte comune, e non e piu di 600 leg.
e non giusta distanza Conco: il Drago e li almi Altri

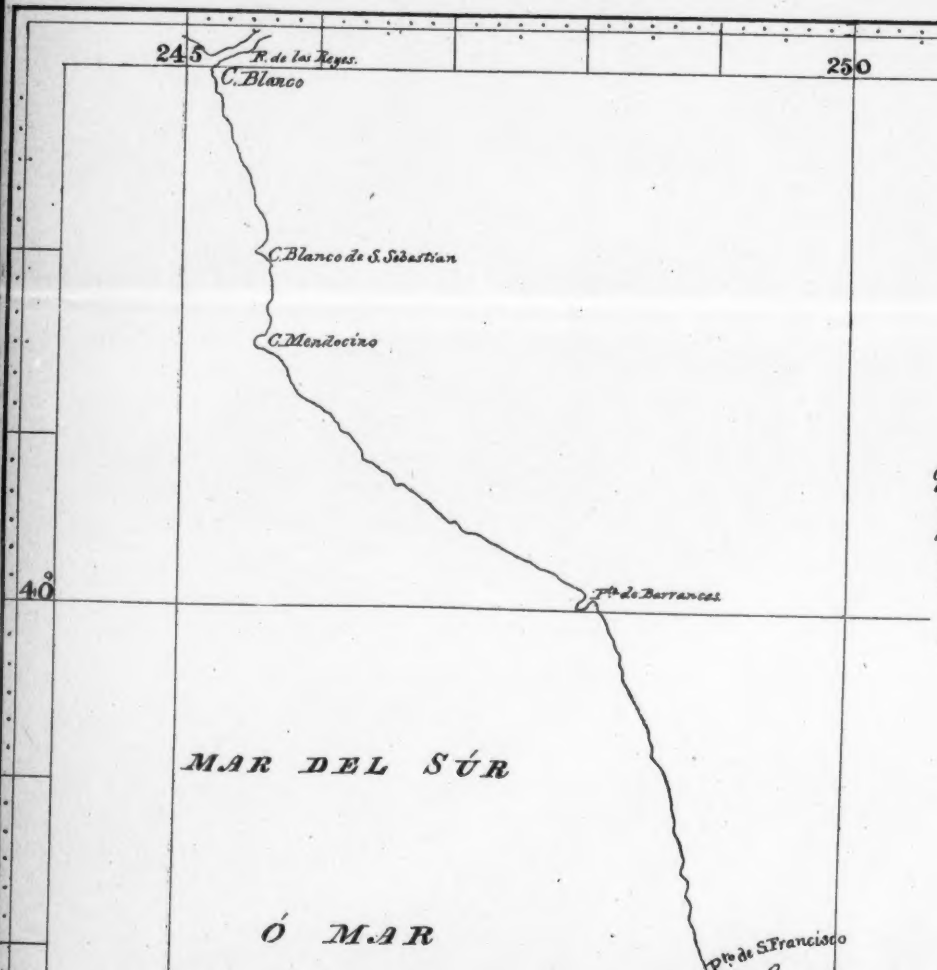


REPRODUCED FOR THE AMERICAN GEOGRAPHICAL SOCIETY, AUGUST 1, 1908, BY PERMISSION OF THE CALIFORNIA HISTORICAL SOCIETY


Plan of Port San Francisco in New Albion
Lat 37° 15' N
from a Spanish Ms.
A. Entrance of the Famous Port.
p. Mountain of St. Juan Bautista
0 5 10 20 Nautic Miles 30 40 50
Fresh Water Bay
Fresh at low water
Always Fresh Water
Tufts of Wood
Punta de Reyes
Termination of the Estero to the S.E.
Ptos de S. Francisco
Ptos de Montarey
Ptos de Almejas
Tierra de S. Ingles
Ptos de la Concepcion
C. de Mendocino
42°
41°
40
39°
38°
37°
36°



REPRODUCED FOR THE AMERICAN GEOGRAPHICAL SOCIETY, AUGUST 1, 1908, BY PERMISSION OF THE CALIFORNIA HISTORICAL SOCIETY.



[No. 15.]

[Same Scale as Original.]

Chart of California

by

Miguel Costansó

1770

Engraved by Tomas Lopez. Madrid 1771

entitled,

Carta Reducida del Oceano Asiática ó' Mar del Súr

Que comprehende la Costa Oriental y Occidental de la Peninsula de la California, con el Golfo de su Denominacion antiguamente conocido por la de Mar de Cortés, y de las Costas de la America Septentrional desde el Istmus que una dicha Peninsula con el Continente hasta el Rio de los Reyes, y desde el Rio Colorado hasta el Cabo de Corrientes

Compuesta de Orden del Exmo Señor Marqués de Croix, Vi Governador y Capitan General del Regno de la Nueva Espa y de los Exercitos de S.M.

.....

.....

.....

Mexico y Octubre 30 de 1770 = Miguel Costansó

months April-September, according to information supplied by many observers, mostly ship officers. Symbols show areas of unbroken polar ice, land floe, large ice-fields, close-packed ice, open ice, icebergs and brash. The conditions in many areas are marked unknown, and absence of colour indicates that ice is supposed to exist, but no information is at hand.

The printed descriptions fill 17 pp., half of each page being given to the Danish and half to the English text. On the whole, conditions were normal on the west Greenland routes, along the coasts of Iceland, in Hudson Strait and Bay, in Bering Strait and Sea and in the Kara Sea. Conditions, however, were unfavourable to navigation in Spitzbergen waters and off the southeast coast of Greenland where a belt of heavy pack ice, forty miles wide, prevented the annual visit of a Danish vessel to Angmagsalik.

Baron de Geer's Expedition to Spitzbergen.—*Petermanns Mitteilungen* (No. V, 1908) gives further particulars concerning the expedition which the Swedish Government has dispatched to Spitzbergen in charge of this well-known geologist. The purpose is geographical and geological research. It is expected to make a more exact survey of the coasts of Ice Fiord and to map the glaciers tributary to it. Excursions inland will be made to ascertain what changes the glaciers have undergone since they were last studied. Many photographs of the glaciers will be taken. The party includes the geologists, C. Wiman, B. Högbom, and S. de Geer, the brother of the leader; the zoologist, N. von Hofsten; the photographer, O. Halldin, and the cartographer, E. Jansson. The expedition was taken to Spitzbergen by the gunboat *Svensksund*, whose officers were instructed to make soundings and engage in other hydrographic work.

PHYSICAL GEOGRAPHY.

Meteorology in the Far South in 1907.—Since February, 1904, the meteorological and magnetical station established by the Scottish Expedition in 1903 at the South Orkneys has been maintained by the Argentine Meteorological Office. Mr. P. R. C. Mossman has given to the *Scottish Geographical Magazine* (No. 7, 1908) an account of the work during the past year under the direction of Mr. Angus Rankin and his colleagues. The main features are here summarized.

Hourly meteorological observations were maintained without a break and interesting features are observed in the condensed table. The early part of 1897 was relatively mild, February, April and May having higher mean temperatures than hitherto recorded for these months. The mean temperature for February (34.5°) was the highest for any month in the five years of the observations. May was remarkably mild and Scotia Bay remained unfrozen till June 6, the latest day observed. The *Scotia* was frozen in by the end of March in 1903. Although May was unusually stormy the mean temperature was only 24°, while in the corresponding month of 1904 the mean was 10.4°. Precipitation was noted at 365 out of a possible 744 hours. In June and July the meteorological elements approached closely to their normals, an excess of cloud and absence of high temperatures being the most noteworthy features.

July 21 and 22 were very cold, the average temperature of these days being −22.8°. The highest barometric pressure of the year, also the highest on record for the station, occurred on July 26, namely 30.482 inches.* From the 24th to the 30th of July pressure was unusually high, being 30.204 inches, and this was associated with low temperatures till the 26th.

* Mean barometric pressure at 32°, sea-level and standard gravity.

Similar observations were kept during the year at South Georgia, about 400 miles north of the South Orkneys. August there was not only the coldest month during the five years, but also had the highest mean barometric pressure (mean temperature 2°, or 14.5° below the average; mean barometric pressure, 29.744 inches, or 0.331 inch above the normal).

Barometric pressure was 0.109 inch higher at the South Orkneys in August than at South Georgia, showing a distinct inversion of the normal distribution of pressure in this region which falls towards the south, at least for a certain distance, determined by the proximity of the Antarctic Continent. During the last week in July and the first three weeks of August the effect of this unusual extension northward of the Antarctic anticyclone was clearly reflected in the abnormal distribution of pressure over South America. Mr. Mossman observes:

> It is worthy of note that the cold of June, July and August was equally marked in both hemispheres between the meridians of 20° E. and 100° W., or one-third of the circumference of the globe... Is it possible that there is an intimate relation between pressure anomalies in the boreal and austral regions and the weather in intermediate situations both north and south of the Equator? I venture to think so, especially as regards those regions which bound the shores of the North and South Atlantic.

The Argentine Government has placed the South Orkney station on a permanent basis at an annual expenditure of £4,500. Data covering five years are now available, the observations for 1904 are in press and those for the following three years will be in type about the end of the year with a complete discussion of the material for the whole period. It is hoped that the station on Wandel Island, occupied by Dr. Charcot in 1904, will be reëstablished next summer by the Argentine Meteorological Office.

VARIOUS.

FRONTIERS.—Lord Curzon of Kedleston, the Romanes lecturer at the University of Oxford in 1907, chose the subject of Frontiers and his paper has recently been printed by the Clarendon Press (H. Frowde, London, 2 s.). He sketches the part frontiers have played in history and shows that the majority of the most important wars of the century have been frontier wars and that the question of frontiers is still playing a great part in the life of nations. After treating of their origin, he describes natural frontiers—the sea, the least alterable and most effective; the desert, Asia and Africa having afforded the best examples of this political barrier; mountains, liable to little change except such as may be brought about in the shape of roads, railroads, and tunnels; rivers, the advantages and disadvantages of which, as frontiers, are enumerated; and the well nigh obsolete barriers created by forests, marshes, and swamps.

Passing to the category of Artificial Frontiers he classifies them as ancient and modern, the distinction between them reflecting the difference between the requirements of primitive and of civilized peoples. Among them were the palisade, rampart or wall. A commoner type of the ancient frontier was the neutral zone, such as existed between Corea and China till beyond the middle of the last century; buffer zones such as Wakhan, a narrow strip only a few miles wide, interposed by the convention of 1895 between the Pamir frontier of Russia and the Hindu Kush frontier of India.

Then there are states in Europe, as Switzerland, Belgium, and Luxemburg, protected by international guarantees. Lord Curzon next describes the commoner forms of artificial frontiers in use among modern states, such as the purely astro-

nomical frontier, following a parallel of latitude or a meridian of longitude; a mathematical line connecting two points, the astronomical coordinates of which are specified, a form much used in laying down the frontiers of the States of the American Union, protectorates, hinterlands, leased territories, etc. He cites evidence showing the progress that has been made in the delimitation of frontiers and in the settlement of frontier disputes. The address is a statesmanlike and scholarly treatment of the topic within the limits of an academic lecture.

INDEX TO PETERMANNS MITTEILUNGEN.—The latest index to Petermanns Mitteilungen is a volume of 160 pp., covering ten volumes (1895-1904) and eight volumes of the Ergänzungshefte. Two sheets, containing eleven maps, show the position and area covered by all the maps in these volumes. This decennial index is a convenience which geographical workers are glad to have at hand.

COFFEE CONSUMPTION IN THE WORLD.—The *Board of Trade Journal* quotes from the Italian Journal *Sole* the statement that the total consumption of coffee in the world during 1907 was 16,825,000 bags (of 60 kilos each), of which the United States took 6,980,000 bags, Germany, 3,050,000 bags, and France, 1,625,000 bags.

The use of the metric system of weights and measures will be compulsory in the Philippine Islands after Jan. 1, 1909.

The Council of the Association of American Geographers has decided to hold its next annual meeting at Baltimore in affiliation with the American Association for the Advancement of Science. The exact dates of the meeting will be announced later.

The Royal Trans-African Railroad Company is extending the Loanda Railroad from Ambacca to Malange for the purpose of connecting the city of Loanda with the fertile lands of central Angola, the large Portuguese colony south of the Congo, and utilizing Loanda's fine harbour as an outlet for the merchandise of the interior. It is expected that Malange will be reached in December next.

A Congress of North Africa will meet at Paris on Oct. 6-10 this year. It will be the first of a series of Colonial Congresses to be held every five years. The Congress will consider various questions relating to colonization and economic problems in Algeria and Tunis, the organization, religious institutions, education and material conditions of the natives in those countries and political and administrative problems. Questions relating to Morocco will also be discussed.

NEW MAPS.

AFRICA.

ABYSSINIA.—Kaffa. Routen der Expedition von Mylius-Bieber. 1905. Scale, 1:250,000, or 3.95 statute miles to an inch. Aufgenommen von Friedrich J. Bieber. Supplement to "Das Hochland von Südäthiopien," by F. J. Bieber. *Petermanns Mitt.*, Vol. 54, Nos. 4 and 5. Justus Perthes, Gotha, 1908.

A map of the extreme southern part of Abyssinia giving the routes of the expedition and a large number of new geographical names. The distribution of the conspicuous types of vegetation shown in colours. From Mount Butta, the highest summit (12,000 feet), the whole of Kaffa may be seen.

CONGO STATE.—Carte d'une Partie du Katanga. Scale, 1:1,600,000, or 25.2 statute miles to an inch. Supplements a paper, "Quelques Faits à Propos de la Formation des Pépites d'Or," by H. Buttgenbach. H. Vaillant-Carmanne, Liège, 1906.

A black-and-white sketch map showing the distribution of copper, gold, and iron, in that part of Katanga between 10° 30′ — 12° S. and 25° — 28° E.

EGYPT-TURKEY.—Map Showing Turko-Egyptian Boundary of Oct. 1, 1906. Scale, 1:500,000, or 7.8 statute miles to an inch. 29° 30′ — 31° 50′ N.; 33° 40′ — 35° 10′ E. Supplements the "Report on the Delimitation of the Turko-Egyptian Boundary between the Vilayet of the Hejaz and the Peninsula of Sinai (June-September, 1906)." Survey Department of Egypt, Cairo, 1908.

The topography is shown in brown. The boundary line extends from the Mediterranean at Rafa to the northwest shore of the Gulf of Akaba.

GOLD COAST.—Gold Coast. Scale, 1:125,000, or 1.9 statute miles to an inch. Sheets 72-J-I (Aluakru), 72-V-II (Axim). Published under the direction of Major F. G. Guggisberg, R.E., Director of Surveys, London, 1907. Selling agents, W. & A. K. Johnston, Edinburgh and London, and Edward Stanford, London. (Price, 2s. a sheet.)

The positions of mining concessions on the Axim sheet have been revised (1908) and supersede those on the Sekondi sheet.

(*a*) ITALIAN SOMALILAND.—Schizzo Provvisorio dei Nuovi Confini tra l'Abissinia e la Somalia e Dancalia Italiane. Scale, 1:10,000,000, or 157.8 statute miles to an inch. *Boll. della Soc. Geog. Ital.*, Series 4, Vol. 9, No. 7, Rome, 1908.

(*b*) ERITREA-ABYSSINIA.—Secondo l'Accordo Italo-Etiopico, 16 Maggio 1908. Scale, 1:5,000,000, or 78.9 statute miles to an inch. *Boll. della Soc. Geog. Ital.*, Series 4, Vol. 9, No. 7, Rome, 1908.

(*a*) shows the inland boundary of Italian Somaliland as determined by the recent agreement between Italy and Abyssinia and the protocol of May 5, 1894, between Italy and Great Britain; (*b*) shows the new boundary of southwestern Eritrea as changed by the Italian-Abyssinian agreement of May 16, 1908.

MOROCCO.—Itinéraires dans le Haut Atlas Marocain. Scale, 1:250,000, or 3.95 statute miles to an inch. By Louis Gentil. *La Géographie,* Vol. 17, No. 3, Paris, 1908.

Supplements Gentil's paper descriptive of these explorations. It is a fine detailed map of his routes through the High Atlas with tints showing the geology along the routes and for a considerable distance on both sides of them.

BRITISH EAST AFRICA.—Sketch of the country between Kitui and the Tana River. Scale, 1:1,000,000, or 15.78 statute miles to an inch. By Capt. L. Aylmer. *Geog. Jour.,* Vol. 32, No. 1, London, July, 1908.

The tracing of the course of the Tiva River below Ikutha is new. There were so few prominences above the general level that an effective plane-table survey could not be made.

DAHOMEY.—Carte Géologique du Dahomey et Dependances. Scale, 1:1,250,000, or 19.7 statute miles to an inch. By Henry Hubert. *La Géographie,* Vol. 17, No. 5, Paris, 1908.

The author collected his data on his journeys in 1904-06, his routes aggregating 7,000 kilometers. He has also used material collected by other explorers. Two profiles give geological sections.

SOUTHERN NIGERIA.—Recent Explorations in Southern Nigeria. Scale, 1:500,000, or 7.89 statute miles to an inch. By Lieut. E. A. Steel. *Geog. Jour.,* Vol. 32, No. 1, London, 1908.

Between 1904 and 1908 a large tract of unexplored country, about 3,500 square miles in area, in the hinterland of Southern Nigeria, was brought under British control. The map and the article which it illustrates, "Exploration in Southern Nigeria," by Lieut. Steel, deal with the part of this region lying between the Niger and Cross rivers. The map shows in red a large number of routes followed by the British expeditions, marks the drainage features and locates the government stations.

TOGO.—Eisenbahn- und Baumwollkarte von Togo. Scale, 1:3,200,000, or 50 statute miles to an inch. *Beihefte zum Tropenpflanzer,* Vol. 9, No. 3, Berlin, 1908.

A black-and-white map showing railroads, areas adapted for cotton culture and cotton markets.

GERMAN EAST AFRICA.—Eisenbahn- und Baumwollkarte von Deutsch-Ostafrika. *Beihefte zum Tropenpflanzer,* Vol. 9, No. 3, Berlin, 1908.

Gives information similar to that appearing on the map of Togo, above.

MOBANGI-SHARI-CHAD.—Zones des cultures de la province d'Oubangui-Chari-Tchad. Scale, 1:7,500,000, or 118.35 statute miles to an inch. *Annales de Géog.,* Vol. 17, No. 92, Paris, 1908.

The northern limits of the large cultivation of crops in this region to the south and southeast of Lake Chad are given; also, areas in which the live-stock industries are most important. Based upon A. Chevalier's economic map in his "L'Afrique Centrale Française."

AMERICA.

Hydrographic Office Charts.

Pilot Chart of the North Atlantic Ocean, July, 1908.—On the reverse the description, with charts, of West Indian Hurricanes is reprinted from H. O. Publication, No. 86, Gulf of Mexico and Caribbean Sea, Vol. 1, Fifth Edition, 1901.

U. S. Geological Survey Maps.

United States.—Map of Alaska Showing the Known Distribution of Mineral Resources. Scale, 1:5,000,000, or 78.9 statute miles to an inch. Compiled under the direction of Alfred H. Brooks. U. S. Geol. Sur., Washington, 1907.

Supplements *Bull.* 345 (U. S. Geol Sur.), on "Mineral Resources of Alaska; report on Progress of Investigations in 1907." A map in colours giving very clearly the results of our present knowledge as to the distribution of gold, copper, tin, coal, petroleum, marble, and gypsum.

Canada.—Map of the Yukon Territory. Scale, 1:2,027,520, or 32 statute miles to an inch. Geological Survey of Canada, Ottawa, 1906.

Illustrates the summary reports of R. G. McConnell, Jos. Keele, and C. Camsell in 1905. Elevations are in feet above sea-level, and the distribution of gold, silver, copper, and coal is shown.

Canada.—Special Map of Rossland, British Columbia. Scale, 1:4,800, or 400 feet to an inch. By W. H. Boyd. Department of Mines, Geological Survey of Canada, Ottawa, 1908.

Surface forms are shown by brown contours, with twenty feet interval. The plan of the town of Rossland and the distribution of the mines around it are given with much detail on this large scale.

Argentina.—Twelve maps of the Republic (each 5 by 4 in.) showing in colours, with titles and explanatory matter in German, (1) the nine climatic regions, (2) the annual mean isotherms reduced to sea-level, (3) distribution of temperature in summer, (4) distribution of temperature in winter, (5) iso-amplitudes, (6) mean annual iso-anomalies or deviation of the observed mean temperature of the year from the normal temperature, (7) mean annual distribution of temperature, (8) distribution of vegetation, (9) rain zones, (10) rain distribution in winter, (11) rain distribution in summer, (12) annual rain distribution. *Veröffentlichungen* der Deutschen Akademischen Vereinigung zu Buenos Aires 1899-1904. Buenos Aires, 1908 (?)

These instructive maps illustrate an article by Dr. Josef Chavanne, "Die Temperatur- und Regenverhältnisse Argentiniens."

Chile.—The following charts on a scale of 1:250,000, or 3.9 statute miles to an inch, have been received from the Comisión Chilena de Límites, Santiago. Each sheet is accompanied by a sketch of the triangulation on which it is based:

Bio-Bio, Cautin.—38° — 39° S.; 70° 30′ — 72° W. Heights in meters above sea-level.

Linares, Ñuble.—36° — 37° S.; 70° 10′ — 72° 10′ W.

ASIA.

The following maps appear in the Annual Report for 1907 of Mr. P. D. Warren, Surveyor-General of Ceylon:

CEYLON.—Scale, 1:1,013,760, or 16 statute miles to an inch. Shows in colours the railroads, principal and minor roads and cart tracks, and block surveys to date.

CEYLON.—(3 sheets.) Scale, 4 miles to an inch. Block survey in (1) Southern Province, (2) Province of Uva, and (3) North-central Province. Show crown lands, settled areas, areas in which settlement is sanctioned, etc.

CEYLON.—Negombo Railway in Course of Construction. Scale, 1 mile to an inch. Shows results of the surveys along the route of the railroad.

INDIA.—Map of the Calcutta Earthquake of 29th September, 1906. Scale, 1:1,013,760, or 16 statute miles to an inch. Supplements Report by C. S. Middlemiss, Superintendent Geol. Survey of India. "Two Calcutta Earthquakes of 1906" (*Rec.* Geol. Survey of India, Vol. 36, Part 3), Calcutta, 1908.

The more important of these two earthquakes was that of September 29, which caused slight damage to many Calcutta buildings. The outer limits of the shock, as felt, coincided roughly with the outer dotted line on the map, embracing about 50,000 square miles. The intensity at various places is indicated in terms of the Rossi-Forel scale.

JAPAN.—Formosa. About 17.5 statute miles to an inch. Supplement to "Eine Reise in das Innere der Insel Formosa und die erste Besteigung des Nitakayama (Mount Morrison)." By Dr. K. Th. Stöpel. *Deutscher Wissenschaftlicher Verein zu Buenos Aires,* Buenos Aires, 1905.

Gives an important amount of new data along the routes followed by Stöpel in the partly explored eastern half of the island. The map shows that in 1898 more than half of the island was still unexplored. The distribution of gold, coal, petroleum, camphor, and agricultural products is indicated.

AUSTRALASIA.

AUSTRALIA.—Map of Australia Showing the Extent as far as Known of the Great Artesian Basin and an Artesian Area in West Australia. Scale, 600 statute miles to an inch. Illustrates "Problems of the Artesian Water Supply of Australia: With Special Reference to Professor Gregory's Theory." By E. F. Pittman. Geological Survey of New South Wales, Sydney, 1908.

Mr. Pittman is Government Geologist of New South Wales. The Great Artesian Basin, extending over the northern part of New South Wales, a section of South Australia and a large part of Queensland, is shown in blue. This area is covered with inclined beds of porous sandstone occupying a more or less basin-shaped hollow with a floor formed by igneous rocks and altered sediments which are practically impervious to water. A thick series of impermeable shales and clays covers the porous sandstones to a depth which in many places reaches more than 4,000 feet; the exposed edges of the sandstone beds outcrop at high altitudes on the flanks of the great dividing range, where they receive a considerable rainfall. Nearly everywhere within the limits of these widely extending beds of porous sandstone the boreholes which have intersected the porous beds have yielded

large supplies of water under considerable pressure. On the other hand, excavations outside the limits of the porous sandstone have yielded no water under pressure.

TERRITORY OF PAPUA.—Approximate plan showing the course of the St. Joseph and Biaru rivers. Scale, about 3.5 miles to an inch. 8° — 8° 55′ S.; 146° 20′ — 147° 10′ E. *Annual Report* of the Administrator of Papua for year ending June 30, 1907. Melbourne, Victoria, 1908.

Shows the route of explorers, government roads, native tracks, and the limit of districts where one and the same dialect is spoken.

EUROPE.

GREAT BRITAIN.—Bartholomew's "one-inch-to-mile" Map of the Isle of Wight. With inset plans of Ventnor and Ryde. The Edinburgh Geographical Institute, Edinburgh, 1908. (Price, 1s.)

The contour intervals are tinted to show elevations. Railroads and nomenclature are in black and wagon roads are differentiated as first-class, good, and passable. A pocket guide containing all information required by tourists accompanies the map.

AUSTRIA.—G. Freytag's Verkehrsplan der K. K. Reichshaupt-und-Residenzstadt, Wien. Scale, 1:15,000, or 1,250 feet to an inch. Verlag v. G. Freytag & Berndt, Vienna, 1907. (Price, K. 1.50.)

The city wards are shown in colours. The street names are very plainly printed and all information relating to the means of communication throughout the city, such as tramway and omnibus routes, main and branch post-offices and postal districts, telegraphs and telephone offices, cab stands, and steamboat docks are given without confusion. The house numbers at the street corners are given, and heights are in meters. Bound in with the map is a map of the Floridsdorf ward on the east side of the Danube, recently taken into the city. Also a small sketch map of the city showing the municipal divisions and the surrounding regions. An index to all public and show buildings, parks, etc., is printed, with references to figures and letters on the map margin, so that every feature of special interest may readily be found on the map. This is one of the superior maps, to facilitate travel in Austria-Hungary, issued by this firm.

GERMANY.—Nationalitäten-Karte der Provinz Ostpreussen. Von Paul Langhans. Scale, 1:500,000, or 7.8 statute miles to an inch. *Deutsche Erde,* No. 1, Vol. 6, Gotha, 1907.

Colours show the percentages of the German population and the areas of predominant German, Polish, and Lithuanian elements. *Deutsche Erde* had previously printed similar maps of West Prussia, Posen and Silesia.

THE UNITED KINGDOM.—Bartholomew's Reduced Survey Maps of the Channel Islands. Includes Guernsey, scale ½ mile to an inch; Jersey, 3-5 mile to an inch; Sark, ½ mile to an inch; Alderney, 9-10 mile to an inch, and a small map of the Channel Islands, scale 24 miles to an inch. The Edinburgh Geographical Institute, Edinburgh, 1907. (Price, 1s.)

This is one of the fine tourist maps issued in colours by John Bartholomew & Co. The main driving roads are shown in red, and private roads and foot paths are indicated. Heights of the land above low water are in figures. Contours of the surrounding sea-floor are given, and the hills and ranges are indicated by hachuring. Cultural features, including all houses outside the towns, are represented, and all information which tourists and cyclists may derive from a first-class map is given.

RUSSIAN EMPIRE.—Caucasia. Scale, 1:2,027,520, or 32 statute miles to an inch. Compiled in the Topographical Section, General Staff, Edward Stanford, Agent, London, 1906. (Price, 2s.)

The Caucasus topography in its broader features is shown in brown tints. The comparatively large scale permits the use of more detail than is often seen in maps of the Caucasus. As in all General Staff maps, which are expected to serve military purposes if necessary, especial attention is given to roads and railroads; the place-names are also very numerous.

ATLASES.

UNIVERSAL TASCHEN-ATLAS.—(Edition for 1907.) By Prof. A. L. Hickmann. 64 Maps, Tables and Diagrams, and 64 pp. of statistical text. G. Freytag & Berndt, Vienna and Leipzig, 1907.

All the maps are excellent, and those of Europe are large enough to present clearly the leading towns, the most important railroads and steamship routes, and even the characteristic topographic forms. The folding map showing international communications is one of the best that has appeared in a pocket atlas. For the countries outside of Europe, the maps are so small that only a few leading facts can be given. The countries of North America, for example, are found only on the sheet of that continent on a scale of 1:60,000,000. The atlas has a great amount of information in text and tables relating to races, religions, languages, census statistics, money, weights and measures, agriculture, manufactures, coins, etc. Map-houses in our country that publish pocket atlases may profit by consulting this and other similar works issued abroad.

CRAM'S QUICK REFERENCE ATLAS AND GAZETTEER OF THE WORLD.—Edited by Dr. Eugene Murray-Aaron. Containing 111 Newly Engraved Maps and over 42,000 Index Entries. Geo. F. Cram, New York and Chicago.

This little atlas bears copyright of 1907. The preface declares that "New discoveries and the results of exploration have been properly placed on these maps to within less than a month of going to press." Unfortunately, this statement is misleading. On the Arctic sheet, for example, the farthest north of Peary, announced to all the world early in the fall of 1906, is not indicated. Not one of the large islands to the north of the Parry Archipelago, which Capt. Sverdrup added to the Arctic chart five years ago and which were mapped on a large scale in his book published in 1904, is shown. There is no indication of the long range of the Endicott Mountains, stretching across Alaska from east to west, which greatly changed our ideas of the topography of northern Alaska and has been prominent on all our official maps for two years. The fact that there are over 42,000 place-names on the sheets is no merit in a pocket atlas, where maps are necessarily on a very small scale. The map of New

York State, for instance, is so crowded with place-names that many rivers and all the mountains have to be sacrificed, so that the surface of the State seems to be as level as a floor. What is the use of all these town-names on a map so small that not a third of them can be shown? In a bit of Greene Co. we see the hamlet of Lexington, while the neighbouring towns of Hunter, Windham, and Prattsville, all much larger and more important, are not given. The maps are produced in a style that is obsolete in all countries where modern methods of cartography have come into general use.

BOOK NOTICES.

Climate. Considered Especially in Relation to Man. By Robert DeCourcy Ward. xv and 372 pp., 34 Illustrations, and Index. G. P. Putnam's Sons, New York, 1908.

Mr. Ward has produced a book that may be read with profit by any intelligent person and will also serve admirably as supplementary reading for students of climatology. The introduction, for the most part a very condensed synopsis of the first six chapters of Hann's "Handbook of Climatology," gives a systematic discussion of the elements of climate and their treatment. The author presents very fully the different classifications of climatic zones and climates, illustrating the subject with German charts. A chapter each is given to a simple and vivid description of the climates of the tropical, temperate, and polar zones, illustrated by typical curves of temperature, rainfall, and cloudiness, which the author specially prepared for the book. Chapter VII presents a survey of some of the relations between weather and climate and a few of the more important diseases, the only summary of the kind that is accessible to the general reader. The chapter considers tropical death-rates, hygiene in the tropics, and the acclimatization of the white race in the tropics.

In three chapters the life of man in the tropics and in the temperate and polar zones is considered. The voluminous subject is not discussed in detail but the author has aimed to give a clear insight into it by presenting typical illustrations here and there. "The coördination of many illustrations of the control of climate over the life of man by climatic zones gives an adequate emphasis to the climatic factor which has hitherto been much neglected." The final chapter deals with historical and periodical changes of climate, a topic of great popular interest. The general subject is, of course, of vital importance to the human race and it is treated in a manner so clear and readable that the book is preeminently adapted for wide usefulness.

Personal Hygiene in Tropical and Semi-Tropical Countries. By Isaac Williams Brewer. F. A. Davis Company, Philadelphia, 1908. (Price, $1.)

Dr. Brewer has condensed in this little volume a great deal of practical information concerning the maintenance of health in such regions as the Philippines, Cuba, Panama, and other parts of the tropics. He conveys his message in plain

and simple language and summarizes the climatic features of regions in the tropics where our countrymen are most likely to be stationed. After discussing the preparations which should be made before sailing, he considers food, drinking water, exercise, dwellings, servants, disposal of refuse, prevention of malaria, yellow fever, dysentery, cholera, plague, and other diseases peculiar to the tropics. A timely book to which general attention should be called.

The Web of Indian Life. By the Sister Nivedita (Margaret E. Noble). 276 pp. Henry Holt & Company, New York, 1907. (Price, $1.75.)

Miss Noble has given a sympathetic interpretation of the spirit that pervades Hindu life, especially as it manifests itself in the home and in the ideals of motherhood and wifehood. She shows how inextricably religion has been and is still woven into their social order and maintains that the future development of the country must be based upon this foundation. Her treatment of the subject is throughout poetic and keenly sympathetic, so much so, that at times one feels that she has idealized the facts. Her views, however, are the outcome of close living with the people of whom she writes, so that we are spared the more common fault of ignorant misinterpretation. That the West can help the East Miss Noble does not in the least deny, but she holds that "only those can do vital service who, in a spirit of entire respect for her existing conventions and her past, recognize that they are but offering new modes of expression to qualities already developed and expressed in other ways" (p. 90). J. B. A.

Physiography.—For High Schools. By Rollin D. Salisbury. viii and 531 pp., 24 Plates, and 469 Illustrations in the Text and Index. Henry Holt & Company, New York, 1908. (Price, $1.50.)

Professor Salisbury has produced here a text-book for high schools every page of which can be read with interest and profit in much wider circles. To a large class of readers not a few branches of science are fascinating if their story is told with judicious selection of facts and in a simple and interesting manner. Physiography deals with the causes that have produced the present features of the earth surface, a subject that is very interesting to most intelligent persons. In writing this elementary work for first- or second-year students in the high school, the author has avoided controversial matters, presents a scientific subject with technicalities simplified, makes clear what he means, and charms with his simple and lucid style. His book is undoubtedly adapted for the students whom he addresses and for the large part of the general public whose interest may easily be kindled in the fascinating subject of physiography.

Professor Salisbury presents an enormous number of facts, although he says the book has been written with the conviction that the growth of the pupil is more important than facts about physical geography. The aim he has constantly in view is to induct the beginner into the method of the science and to contribute to his mental growth by using facts and principles to stimulate the exercise of the reasoning faculty. The illustrations are a superb feature and, in fact, they are meant to be studied and interpreted as carefully as the text itself. They include many reproductions of parts of the Government topographic sheets and we have never before seen contour maps used so effectively in a text-book.

The author shows how to read these maps, and interprets some of them with the pupil. No one can study these specimens of modern cartography so beauti-

fully presented in this work without learning to love good maps, and fully to appreciate the fine art that presents to the eye so accurately a large number and variety of facts.

In Dänisch-Westindien. Anfänge der Brüdermission in St. Thomas, St. Croix und St. Jan von 1732–1760. Von H. von Dewitz. Second edition. vii and 372 pp., 5 Illustrations and a Map. Missionsbuchhandlung der Missionsanstalt der Ev. Brüderunität, Herrnhut. (Price, M. 2.)

This story of the founding of the Brotherhood missions in the Danish West Indies is especially valuable for its account of the slave trade in that centre of the traffic during the heyday of the import of African slaves. St. Thomas at that time was one of the largest slave markets and centres of slave distribution in the West Indies. Among the illustrations is a plan of the between-decks of a slaver, showing how the human freight was packed away in these vessels. Those were stirring days for missionary enterprise, and the book is full of remarkable incident showing the struggle of the pioneer teachers and the sturdy stuff of which they were made, which helped them to ultimate triumph.

In de Molukken. By Dr. I. Groneman. 79 pp., and many half tone Illustrations. Van Holkema & Warendorf, Amsterdam. (Price, 36c.)

A guide-book, well written and illustrated, for the use of travellers between Java and the Moluccas.

Twenty Years on the North-West Frontier. By G. B. Scott. 272 pp., and Maps. The Pioneer Press, Allahabad, 1906. (Price, 2 R.)

Mr. Scott, long connected with the Survey of India, and one of the most prominent writers on that region, has brought together in this little volume a series of sketches concerning the troublous times on the North-West frontier, and the campaigns against the mountain tribes. The book is of geographical interest because it gives in a popular way much information concerning the natives and the mountainous regions which they inhabit.

Egypt and How to See It. Illustrated by A. O. Lamplough. 208 pp., 41 Illustrations in Colours, 4 Appendices, and Index. Doubleday, Page & Company, New York, 1908. (Price, $1.40.)

A dainty volume intended not to supplant guide-books, but to indicate to travellers in Egypt where they should go, how they may economize time, money and fatigue, and what is most worth seeing. French and German editions of the book have also appeared. The contents cover the whole country from Alexandria to the Sudan, and there are outline tours for short journeys. The coloured illustrations are tasteful and characteristic, and the appendices give every kind of detailed and practical information, including time-tables and an English-Arabic vocabulary.

The Climbers' Pocket Book. By Lionel F. West. 79 pp., 41 Illustrations and Index. The Scientific Publishing Co., Manchester, England, 1907. (Price, 2s. 6d.)

A little work on rock-climbing accidents, with hints on first aids to the injured, uses of the rope, methods of rescue and transport, etc. All of the methods he

suggests have been tried by Mr. West in actual practice. The text is copiously illustrated by half-tones, and its numerous suggestions are quite certain to be very useful to mountain-climbers.

Gold and Diamonds.—South African Facts and Inferences. By W. H. Penning. viii and 77 pp., 4 Maps, 11 Illustrations, and Index. Baillière, Tindall & Cox, London, 1901. (Price, 6s. 2d.)

The author, formerly of the Geological Survey of England, makes deductions from geological evidences as to the distribution of gold and diamonds. He deduces from his evidence, for example, the prolonged continuity of the diamond fields beyond the present areas of development, and infers the presence of diamond mines near some of the river gravels. He treats of the mode of underground extension of the auriferous conglomerates of the Rand, and notes the extreme probability of their recurrence, both north and south of the known Rand beds. Two chapters on the Kalahari Desert deal with the underground supply of water and possibly of gold in that region. The evidence tends to show that there may be enough water supply to render considerable development possible. Antiquarians will doubtless be interested in the author's notes on the distribution of stone implements. These implements have been found in considerable numbers at Kimberley and two other diamond-mining centres, and it is suggested that they were used by the earlier tribes to turn over the top soil to find diamonds, specimens of which they had picked up on the surface.

Handbook for Rome and the Campagna. Edited by Norwood Young. Seventeenth edition. xi and 571 pp., with 96 Maps and Plans. Edward Stanford, London, 1908. (Price, 10s.)

This standard handbook in the Murray series has been thoroughly brought up to date. The Directory, containing a great deal of practical information concerning hotels, street-car lines, shops, expenses, etc., has been almost entirely rewritten. The Introduction includes, in a large variety of information, a short history of Rome, articles on architecture, sculpture and painting, chronological tables, etc. Each of the routes has a plan with directions marked upon it in red ink. Several new maps appear, and these maps, from the Stanford establishment, are very accurate and especially good specimens of cartography.

Weltreise. (Meyers Reisebücher.) xii and 516 pp., 27 Maps, 29 Plans, and 1 Flag Table. Bibliographisches Institut, Leipzig und Vienna, 1907.

The first guide-book yet produced for travellers around the world, and the first for India, China and some other countries in the German language. An immense amount of information is packed away in small compass so that, with fine print and thin, tough paper, the volume may easily be carried in a pocket. After the usual practical information for tourists, the sea route from Europe through the Suez Canal to Bombay is described. A side trip from Djibouti on the Red Sea to Abyssinia is inserted. From Bombay the route takes in Elephanta, Ellora, Daipur, Agra, Delhi, Benares and Calcutta. Alternative routes in India are given, and a side excursion to Darjeeling for a view of the Himalayas. The journey goes on to Rangoon, Penang, Singapore, Sumatra, Siam, Indo-China, Java, China and the Philippines. In addition to the sea route to the East, the overland way *via* the Siberian Railroad, to Peking, Port Arthur and Vladivostok is described.

Then follow Corea, Japan, the Hawaiian Islands, San Francisco, and four alternative routes across North America. The book contemplates journeys of considerable extent in every country visited. In China, for example, the itineraries include Hongkong, Canton, Macao, Shanghai, up the Yangtse to Ichang, and even Chungking; from Shanghai to Kiaochau, Chefu, Tientsin, Peking, etc. The book contains a large number of city plans in black and white or colors, in addition to many excellent maps in colours.

A Handbook to York and District. Edited by George A. Auden. —xvi and 365 pp., 9 Pictures from Photographs and Map. John Simpson, York, 1906. (Price, 2s. 6d.)

The book was prepared for the meeting at York, last year, of the British Association for the Advancement of Science. It deals largely with the archæological interests that centre in the old city. The photographs and map illustrate these features. Special papers are also given on the geology, botany, meteorology, and zoology of the region.

The Dawn of Modern Geography. A History of Exploration and Geographical Science. By C. Raymond Beazley. Vol. I, A. D. 300–900; Vol. II, 900–1260; Vol. III, 1260–1420. Second Edition, 1906: Vols. I and II, H. Frowde, London, 8vo. Vol. III, Clarendon Press, Oxford.

As the student of classical geography must have continually his Bunbury within convenient reach, so the student of mediæval geography henceforth will find an indispensable aid to his labours in this three-volume work of Beazley.

Mr. Beazley has had rather the more difficult task to perform. His field has been the centuries in which practical as well as theoretical geography was overwhelmingly influenced by narrow religious conceptions, a period in which, seemingly on principle, the better sources of geographical knowledge were neglected, were misinterpreted or were misapplied, a period in which there was a decline from the high-water mark of classical knowledge which was attained in the centuries under consideration in the work of the first-named author. These volumes, in a sense, rank as pioneer work, for no attempt has hitherto been made to present a fairly complete summary of geographical information such as the Middle Ages have to offer.

His leading title, "The Dawn of Modern Geography," gives at first the suggestion of a treatise on the geography of the so-called Renaissance period, while his secondary title gives a more definite notion of the field covered, wherein he refers to his work as a history of exploration and geographical science from the conversion of the Roman Empire to the early years of the fifteenth century, the expansion of Europe in the Middle Ages.

The material for such a work is abundant, and there is evidence that Mr. Beazley has studied well his sources. He has been marvellously diligent in arranging and systematizing these sources. He has been greatly aided by the publications of the "Société de l'Orient Latin," those of the "Palestine Pilgrims Text Society," indeed by the many printed editions of the authorities cited, and to each full credit is given in the copious foot-notes and appendixes. At the close of volumes one and three special mention is made of the leading manuscript sources and the leading printed editions of texts. There is scarcely a writer who touched upon geographical matters in the period of the Middle Ages who does not receive

some consideration at the hands of Mr. Beazley. In view of the magnitude of the field, it is fair to say that considerable skill has been exhibited in adjusting the problems of proportion.

Each volume of this work is made to cover a particular part of the large period. The chronological divisions are not forced. The author has clearly demonstrated that while there was throughout a logical advance, there were times when old ideas were clearly passing away and when new impulses were beginning to operate.

In the first volume an account is given of the movements in Christendom between the years 300 and 900 A.D., with attention directed to the writings of the pilgrim travellers and their contributions to the expansion of geographic knowledge, to missionary and commercial enterprises, and, finally, to the views of geographical theorists, who, in general, were theologians and who persistently read their theological prejudices into their works. In a brief introduction the author sets forth the general theme of the volume, coming in his first chapter to treat of the Pilgrim Age or of the earliest Christian travellers to Palestine and the sacred places of the Orient. A striking characteristic of the early Palestine pilgrims was their remarkable credulity. They seldom failed to find that for which they sought—the marvellous and the miraculous. Though their outlook was very confined and their impulses were devotional, one finds, as the author observes, "an interest even in the extent, the variety, and the daring of their absurdities." What they record of interest to geographical science is but incidental and unintentional, yet they throw a good deal of light on the growth of geographical mythology, so long a hindrance to scientific discovery, and they help us to understand the impulses and actions of the Crusading Age. The author presents a detailed consideration of these western Christian travellers, beginning with the Bordeaux Pilgrim of the fourth century, "who compiled the first Christian guide-book" in his "Itinerary from Bordeaux to Jerusalem," to Bernard the Wise of the ninth century, who journeyed by way of Egypt to the Holy City.

Commercial and missionary travel is discussed in a separate chapter. Here the great trade-routes of the Old Empire and of the early Middle Ages are described. Referring to the extensive outlook and intercourse of the Cæsars it is interestingly shown how this success in trade, mainly overland, stood in the way of great maritime enterprise (p. 182), and why the Romans did not anticipate Columbus, Diaz, and Magellan. Perhaps the most significant event of the revived trade enterprises of Justinian's day was the introduction of silk into the West and the trade connections with the East to which it led. Through mission travel, as is clearly shown, into regions so widely separated as Abyssinia, Iceland, Northern Europe, and central Asia, where the Nestorian Christians established themselves, there followed a marked expansion of geographical knowledge. The chapter on geographical theory is a very readable discussion of the subject of cosmographical science in the so-called patristic age. In the analysis of his materials for this chapter the author speaks of three schools of geographers, and gives adequately the characteristics of each. To the first belong the fabulists, among whom Solinus, "Pliny's Ape," is strikingly prominent. They were copyists "of classical curiosities of literature," were collectors and disseminators of "marvels differing from the ordinary humdrum course of nature," and their influence was wide-reaching.

To the second school belong the scientists, the cosmographers, well represented by Cosmas in his book, the "Christian Topography." To these scientists the Scriptures appeared not only as an infallible guide to faith but likewise an infallible guide to science; that is, geography. To the third school belong the stat-

isticians, and here one of the most conspicuous is the anonymous Ravennese student who compiled his work about the middle of the seventh century, and who in the main was a copyist of old pre-Christian itineraries.

Non-Christian geography of the period, that is, the geography of the Arabs and the Chinese, receives consideration in the concluding chapter. Here the author's treatment is with special reference "to the bearing upon the Christian world of the West." It was an important work that was accomplished by the Arabic traders through their overland journeys to central, southern, and eastern Asia; nor did these people fail to win distinction on the sea. Among other accounts, the sources and significance of such voyages as those of "Sinbad the Sailor" are discussed. There are numerous map illustrations which exhibit the crudity of mediæval geographical ideas, and the reproductions are no improvement on the originals. One can wish they had been better printed.

In his second volume Mr. Beazley has traversed the period which the historian would call the Period of the Crusades. "Well-nigh entirely barren" in its beginning for geographical science; we, however, soon find "Christian Europe rallying from its decadence and torpor," "reconquering ancient possessions and seeking new fields for its energies." The volume opens with a review of the explorations of the Northmen, who were the first since the ancient day to penetrate the truly Unknown World. The author is not guilty of overstatement in his observation that "the central fact of European expansion in the Dark Ages is the advance of the Scandinavian adventurers and settlers in the West." There is no particular effort made to solve the Vineland problems; no particular contribution to our knowledge, such as we find in that excellent little book by Professor Fischer on the discoveries of the Northmen. We have, however, a very readable, a very interesting summary of Norse exploration, altogether suited to a work of this general character. Pilgrim travel, as is told, continued in this period, and the travellers were almost numberless. They saw most of the marvels and miracles which attracted their brethren of the earlier centuries, but their accounts are often illumined with historical and geographical facts which make them of value as sources for the study of a movement very momentous in European history. It is interestingly shown how, with the close of the Palestine Pilgrim age, the age of the Crusades, the travel impulse, together with the Mongol conquests in central Asia, led to enterprises of a new character. In chapter five we have the subject of diplomatic and missionary travel of the thirteenth century discussed; particularly the expeditions of Carpini and Rubruquis into the Tartar country, with an account of their visits to the Great Mongol Ruler. There is a good chapter on the commercial activities of the Mediterranean lands both of the west and the east, which activities were, in part, as is shown, the results of the Crusades, and a concluding chapter on geographical theory and description with a discussion relative to mediæval maps, a number of which are reproduced.

Mr. Beazley well refers to his third volume "as an attempt to open up comparatively fresh fields of historical and geographical inquiry." Commercial gain rather than a desire to obtain strength for a pious life is now a more prominent impelling motive to travel. There is a lengthy chapter on the great Asiatic travellers, of whom the Polos were most conspicuous. Following these were the friar travellers with John of Monte Corvino as pioneer. The marvellous riches of the East being disclosed, the author traces the efforts that were made to acquire those riches. How the old ideas of the pilgrim days were giving way to more worldly ambitions is very apparent in the Crusader's Manual of Marino

Sanuto the Venetian. In his efforts to revive the crusading spirit he makes a particular point of showing how Christians could get the Oriental products without recourse to the land of the Cairo Sultan, and he gives a sketch of the great trade routes, which is perhaps the most valuable part of his work. The "Marvelous imposture" of Sir John Mandeville is properly estimated and in a footnote, p. 322 seq., the sources of most of his stories are indicated.

One of the most important sections of the entire work is that on Maritime Exploration. It deals with the beginnings of those flank movements around Africa, in which movements Italian seamen played a very conspicuous part. These activities lead us in brief time to the great maritime discoveries of the 15th and 16th centuries. In the chapter on geographical theory we find the aids to maritime enterprise referred to, including the compass and the "portolani" or sailing charts, in which there is so marked an advance over the picture maps constructed in the mediæval cloisters.

Very emphatic praise is due Mr. Beazley for his work and there is sure to be a place for a fourth volume which might be called the Morning of Modern Geography, should he find time to prepare it. This is preëminently his field. "Such a work," I have elsewhere said, "serves well to impress the importance of Historical Geography, an importance which receives commendable recognition in the European countries, but which we in America are slow to appreciate."

E. L. S.

Notes on Maritime Meteorology. By M. W. Campbell Hepworth. viii and 90 pp., with Seven Plates. George Philip & Son, Ltd., London, 1907. (Price, 2s. 6d.)

While the author was a Master Mariner and Commander in the Royal Navy he wrote the papers now collected in this book. The study of meteorology is becoming more popular among seamen, for the value of knowledge of this subject to the navigator is now more fully recognized then ever. Captain Hepworth's papers on Marine Meteorology, here brought together, comprise "Meteorology, a Factor in Naval Warfare"; "Meteorological Observations at Sea"; "Weather along the Coast of South Africa," "Between the Cape of Good Hope and Australia and across the Pacific from Fiji to Hawaii" and "Observations on the Canadian Australian Route." Our knowledge of meteorology is by no means so far advanced that the practical sea experience of such men as Captain Hepworth can not fail to be of much value to sailors and of interest to all students of meteorology. The book is well illustrated with charts.

Poland. The Knight among Nations. By Louis E. van Norman. 359 pp., 17 Illustrations, Map, and Index. Fleming H. Revell Company, New York, 1907. (Price, $1.50.)

The author does not claim to have written an exhaustive study of Poland. If, however, the book is the result of "no more than first-hand impressions," Mr. van Norman must be endowed with intuitive qualities of observation, for only one who entered intimately into a people's life could give so true an appreciation of certain racial characteristics, political conditions under three widely different régimes of government, and the process of reconstruction which is taking place to-day.

All sections of Poland were visited. The Austrian part occupied the first stage of the journey. The lot of the Poles in Austria is comparatively happy; they enjoy autonomy, the freedom of speech and of language. But little has been

done to promote industry, and taxation is excessive, while the Poles in Germany and Russia have had commercial advantages from their governments.

In pages describing German Poland, the writer draws a parallel between the systems of Germanization and Russification, to the credit of the latter.

The largest part of the book is devoted to Russian Poland. The liberal commercial policy of the empire has also benefited Poland. Warsaw, one of the busiest and most progressive cities in Europe, is destined to become, in the author's opinion, one of the world-centres of trade and population. Most railroads connecting Russia with the rest of Europe pass through that city. It is the distributing point of products coming from Asia and its manufactures are sent all over Russia.

In order to see the historic places made famous by Sienkiewicz's "Trilogy," Mr. van Norman visited the fertile plains of Podolia and the Steppes.

> Once across the line and in the great plains region everything—nature and mankind—seemed different from anything I had seen before. As far as the eye could reach, and far beyond—the vast prairies stretched, undulating now and again in gentle waves, but immense, treeless, depressing. A feeling of sadness involuntarily creeps over one when he travels across these plains. There is a vast, mysterious, half-hidden sense of power about the landscape that impresses one with a sort of elemental fear of nature. This influence has soaked into and through the Slavonic nature and made the Slav a poet, a religious devotee, a musician. We drove over tremendously wide roads—three hundred feet wide in places.

Though the soil in Podolia and Volhynia is wonderfully rich and in the highest state of cultivation, very little of it is owned by the peasant, who is wretchedly poor, in striking contrast with his Galician brother.

Many readers will no doubt think that the author is over-enthusiastic in his tribute to Polish women. However that may be, a corroboration of what he says about their beauty and charm of manner, their subtle influence in upholding national ideals, and their domesticity may be found in Reclus and other writers.

The writer thinks that political regeneration will come from the Polish peasant. He finds him patriotic, moral, and endowed with great common sense. At present, systematic efforts are made to give him a good education. The peasant villages delight Mr. van Norman from the artistic point of view.

Forty pages are given to Polish music, art, and literature. "To write of Polish art adequately would be to write the whole history of probably the most wonderfully artistic people of modern times. Even the lowest type of Polish peasant has a soul responsive to music."

Perhaps the best part of the book is that describing life as it is to-day. The author shows how modern progress has touched this nation; the old prejudice against commerce is disappearing, and a middle class is developing. It seems that persecution multiplied the resources of the Pole. Being denied political activity, his energy finds outlet in industry, manufacture, science, art and literature.

Mr. van Norman draws a charming picture of Polish country life and customs. He finds the Poles very hospitable and their home life healthy, intellectual, and refreshingly simple. He caught the quaintness and beauty of holiday and festival observances. "The innate love of the picturesque and poetic which is so characteristic of the race, comes out in the great wealth of customs and traditions among the Poles."

Comparatively less is known about Poland than of other European countries and Mr. van Norman deserves credit for having written a narrative of unusual interest on a nation which, because of its political non-existence, is sometimes regarded as a *quantité négligeable.*

H. DE H.

Le Lot. Padirac, Rocamadour, Lacave. Guide du Touriste, du Naturaliste et de l'Archéologue. Par Armand Viré. vii and 310 pp., 89 Illustrations, mostly from Photographs, 3 Maps, and 3 Plans in Colours. Masson & Co., Paris, 1907. (Price, frs. 4.50.)

The latest volume in the Collection Boule, which now numbers six guide-books that are much appreciated by tourists and students of natural science and archæology. The volume deals with the department of Lot, which has great attractions for the tourist and naturalist as it is one of the most picturesque regions in France. Its old towns and châteaux are full of interest and charm and here are caverns such as the grottos of Lacave and the subterranean lakes of Padirac which French students of caves have made famous. The photographs and maps are excellent and the text fulfills its helpful purpose.

Scientific Confirmations of Old Testament History. By G. Frederick Wright, D.D., LL.D., F.G.A.A. 12mo, pp. xv, 432. Bibliotheca Sacra Co., Oberlin, Ohio, 1906.

There is a growing tendency to regard legends and traditions as important repositories of scientific truth. As they are traced back to earlier, simpler forms, it generally appears that they have their origin in striking natural phenomena. The most unexpected details are usually the most significant, partly because they are the least likely to be the product of imagination, and partly because they can be the most easily tested in the light of modern science. In his recent book on scientific confirmation of Old Testament history, Professor Wright not only emphasizes this principle but goes farther and assumes that the stories of the Bible are the almost unchanged records left by eye-witnesses to the events described. In order, as he distinctly says, to support this assumption and to prove thereby the reliability of the Bible, he investigates the accounts of various events from the standpoint of geography and geology.

After three well-written chapters of somewhat theological general discussion, the author takes up "the records of four startling events which are peculiarly open to scientific cross-examination. They are: (1) the passage of the Red Sea; (2) the parting of the Jordan; (3) the destruction of Sodom and Gomorrah; and (4) the Noachian deluge." The passage of the Red Sea by the Hebrews as they fled from Egypt is explained in the usual way as having been rendered possible by the driving away of the water from a shallow bar at the northern end of the Gulf of Suez by a violent northeast wind. The details of the narrative in Genesis make it probable that the Isthmus of Suez in the days of the Pharoahs stood thirty feet lower than now. The crossing of the Jordan River dry-shod at a later date by the invading Israelites under Joshua as they passed westward from Moab to Judea is equally susceptible of scientific explanations. On the evidence of a series of alluvial terraces, the conclusion is reached that the river was several times temporarily dammed by a sudden anticlinal arching of the lower part of its bed. The Israelites crossed the dry bed of the river on one such arch immediately after its formation. Though such a movement of the earth's crust is possible, no convincing evidence of it is presented. So far as can be gathered from Prof. Wright's description, the terraces, like hundreds of others in the arid regions of Asia, may be the result of alternate deposition and erosion under the varying climatic conditions of glacial and inter-glacial epochs. As an alternative hypothesis the author suggests, but does not accept, the simple and plausible theory that the narrow inner gorge of the Jordan was temporarily dammed by a land-

slide as the Columbia and other streams have been. One of the earthquakes which still occur in the region may have occasioned the landslide, and another, somewhat later, may have caused the fall of the walls of Jericho so strikingly recounted in Joshua. Sodom and Gomorrah lie in the same district as Jericho in the bottom of the great fault rift of the Jordan Valley. The underlying strata are full of oil, and bitumen pits abound near the Dead Sea. Accordingly, the destruction of the cities is explained as due to the sudden outburst and accidental ignition of an oil-well along a fault-line. If the phenomena resembled those of the burning wells at Baku on the Caspian, which are vividly described, the author of Genesis has fitly said that "the Lord rained upon Sodom and upon Gomorrah brimstone and fire . . . out of heaven."

Prof. Wright's discussion of the deluge, occupying more than half the book, is much less convincing than that which precedes it. The hypothesis advocated is that "in connection with the instability of the earth's crust accompanying the Glacial epoch . . . there was a widespread depression of Europe (to a depth of about 1,400 feet), and of Northern, Central and Western Asia (3,000 feet in Central Asia), which, though gradual at first, culminated in a catastrophe of more rapid subsidence, followed by a still more rapid emergence of the continents, with numerous successive sudden uplifts over various portions of the submerged area." The catastrophic subsidence and emergence, so unique in its universality and suddenness, is supposed to have been completed in little more than a year, or at most so quickly that one man saw it all. The basis for believing that this has taken place in Europe is found in the conclusion of Prestwich that the rubble of Great Britain, the ossiferous deposits in fissures in France and Spain, the loess of the Channel Islands, and the hippopotamus bones in the caves of Sicily cannot be accounted for otherwise. No mention is made of the fact that most geologists, including such men as Geikie, believe that the facts can be explained without postulating submergence.

The chapter upon "the evidence of a deluge in Asia" is the most important and least satisfactory in the book. All of the chief lines of argument are open to serious criticism. The eastern end of the Black Sea is bordered by an old beach, indicating that the land once stood 700 feet lower than now, but there is no evidence in support of Wright's tacit assumption that at the other end of the sea and in far distant regions the land stood equally low. As to the age of the beach we only know that since its formation there has been time for the carving of deep, though narrow valleys in the bottoms of old valleys. Man may or may not have lived at the time. So large a beach must have required not one year but hundreds, at least, for its formation. Again, the author supposes that alluvial deposits and terraces in the Jordan Valley and around the Dead Sea indicate an encroachment of the ocean. Granting this for the moment, there is still no proof that man then inhabited the world, and the sea must have stood at a high level for many centuries before such abundant deposits could be formed. It is superfluous, however, to assume the presence of the sea, for the deposits appear to be precisely such as were formed in and around Great Salt Lake in Utah and various salt lakes in Asia when the moister climate of the Glacial Period caused them to expand as the rivers increased in volume. As another reason for believing in a sudden deluge Wright states that in recent times a vast Mediterranean sea covered Chinese Turkestan and the Gobi Desert, and communicated with the Arctic Ocean across Dzungaria. Recent travellers, however, find no evidence of the encroachment of the sea since the Eocene period, several million years ago. The Han-hai,

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a great inland lake mentioned by the early Chinese, has, to be sure, existed within historic times, but it was of the same origin as our expanded Great Salt Lake. It is generally agreed that the climate of central Asia has grown drier during the most recent geological times and perhaps within historic times; and this fact is appealed to by Wright as a proof of the withdrawal of the sea from over Siberia. Unfortunately for the argument, it is not yet proved that the sea recently stood over Siberia, and if it did, we are still left to explain why similar climatic changes have taken place in America, Africa, and Australia where the sea did not markedly encroach. The glacial period appears to have been responsible for the changes of climate, which in general are supposed by geologists to be due to world-wide, not local causes. Finally, the author says that in Northern China and Turkestan the presence of loess in a broad terrace-like band, parallel to the base of the mountains and 3,000 feet above the sea, proves that the sea once stood at that level. In Chinese Turkestan a similar band of loess can be seen for a thousand miles at the base of the Kwen Lun Mountains where it is now being formed by the rivers which wash out from the uplands loess formerly deposited upon the mountains by the wind. All the phenomena connected with loess can be explained without the presence of the sea.

Although Professor Wright's theory of the deluge may not be tenable, his book is of value in calling fresh attention to the usefulness of legends and ancient records as indicators of interesting points for scientific investigations, and as confirmation of scientific conclusions. In reading it, one looks in vain for a statement of views differing from those of the author. This failure to give due consideration to alternative hypotheses makes the facts presented appear to the average reader to signify much more than they do to one who has in person examined the evidence in Asia. The clear and interesting style of Professor Wright's book will probably win for it wide popular as distinguished from scientific approval.

E. H.

In Korea with Marquis Ito. Part I.—A Narrative of Personal Experiences. Part II.—A Critical and Historical Inquiry. By George Trumbull Ladd. x and 477 pp., 12 Illustrations, 3 Appendices, and Index. Charles Scribner's Sons, New York, 1908. (Price, $2.50.)

In 1906-7, Professor Ladd of Yale University delivered many lectures and public addresses in various cities and towns of Japan. While in that country he received an invitation from Marquis Ito, the Japanese Resident-General in Korea, to visit that country as his guest. He was informed that the Resident-General thought "I might be of help to him and to Japan in solving the difficult problem of furthering for the Koreans themselves the benefits which the existing relations of the two countries made it desirable for both to secure."

Professor Ladd accepted the invitation and this book is one of the results. His opportunities for studying the people, their country, and the Japanese policy were of course exceptional. Part I is a statement of his personal observations and experiences and the conclusions he reached with regard to some of the questions involved in the problem of establishing satisfactory relations between Japan and Korea which, he says, are bound together, physically, socially, and politically. In Part II he deals with the present and future relations of the two countries in the light of the studies he made on the ground. For the purposes of this inquiry he had the advantage of access to authoritative information which had not been published.

His book is the work of a teacher whose scholastic specialties are psychology and philosophy, who has spent considerable time and lectures extensively in India and Japan, where he had the best opportunities to examine the spirit of Eastern policy and development. He was also peculiarly favoured in the facilities given him to study the condition of Korea before the advent of the Japanese and the transformation that the new régime is trying to bring about.

The author says that Korea is capable of reform, but at present, is not capable of self-government. Japan has taken it upon herself to supply "example, stimulus, guidance, and effective forces to realize desirable ideals for the country." On Japan's government and people "rests the heavy responsibility of securing a new and greatly improved national life for the millions of the Korean peninsula." In the author's opinion, no other nation is going seriously to interfere with Japan in its task. Whether the results will command for Japan the title of a righteous and genuine success is a question, he says, that cannot now be answered with perfect confidence. But he believes, that "if Marquis Ito and his sympathetic and effective supporters at home and in the Residency General can be sustained for five years and can be succeeded for a generation by those of like purpose and character, then the problem of the relations of Japan and Korea will have been solved."

The book, filled with facts and judgments of the most important quality and significance, must be read by all who wish to have intelligent views as to the momentous drama that is now being enacted in Korea.

W. Holman Bentley. The Life and Labours of a Congo Pioneer. By His Widow, H. M. Bentley. xx and 440 pp., Portrait, Map, and 16 Illustrations. The Religious Tract Society, London, 1907. (Price, 6s.)

Dr. Bentley was one of the three or four early missionaries who linked their names inseparably with pioneer progress in the Belgian Congo. This record of his life work will hold a place in the history of those early days. Bentley was noteworthy for the important degree of success he attained in all phases of his work, but he will be best known for the outcome of his linguistic studies, his grammar and dictionary of the Congo dialects, and his translations of the Scriptures into these tongues. This volume is a merited tribute to a good man whose life was distinguished by prodigious labour and large results; and it contains much important detail relating to exploration and explorers, the vicissitudes of missionary life, pioneering history and the natives.

The Life and Voyages of Joseph Wiggins, Modern Discoverer of the Kara Sea Route to Siberia. Based on his Journals and Letters. By Henry Johnson. xxiv and 396 pp., 41 Illustrations, and Index. E. P. Dutton & Co., New York, 1907. (Price, $5.00)

Such a life as that of Captain Wiggins certainly demanded a literary memorial and it is gratifying that the task has been so admirably performed. Captain Wiggins made a wide reputation during the last quarter of the nineteenth century by his enterprise in opening up communication with northwestern Siberia by way of the Kara Sea. His fame rests upon his great skill as a navigator and the dauntless faith and energy with which for years he put to the test, partly at his own expense, his belief that successful trading relations by sea might be opened between Europe and the Obi River.

His daring and eventful pioneer voyages, as the author of this book observes,

must be counted among the most successful maritime ventures of a private nature in modern times. The year before he died Russia sent a freight-laden fleet through the Kara Sea and up the Yenisei River to Yeniseisk. The success of that voyage and the scientific studies then carried out resulted in 1906 in an official affirmation by the Russian Government of the practicability of the route for two to three months every year and of the important advantages which it offers.

Wiggins's great work has thus been endorsed by Russia. His views and voyages were always opposed by those interested in the overland trade and practically nothing has been done to follow up his enterprises excepting by the Russian Government in 1904. It is expected, however, that Russia will open this sea route as a permanent commercial connection between western Europe and Siberia.

Mr. Johnson's book deals chiefly with Captain Wiggins's adventures in this new field. Fortunately the captain left abundant material in the form of journals of his voyages and hundreds of letters so that the hero of the book speaks largely for himself in its pages. A great number of passages are from his own pen. The book is of permanent value as an authentic history of the pioneer efforts in modern times to open a commercial sea route to Siberia.

Ansiedlersschicksale. Elf Jahre in Deutsch-Südwestafrika, 1893–1904. Von Helene von Falkenhausen. Fifth Edition. iv and 260 pp. Dietrich Reimer (Ernst Vohsen), Berlin, 1908. (Price, M. 3.)

A simple and touching story of the life of a farmer's wife in German Southwest Africa and of the tragedy that blasted her happy home, made her husband a victim of the Herero uprising and sent his poor wife into the wilderness a fugitive, with only one thought to give courage to her mother heart and that was to save the lives of her children in some place of refuge. Her youngest child died on the journey back to Germany. But after it all, Mrs. von Falkenhausen writes that her heart is still in the colony, whither she was taken by her parents who were among the pioneer colonists. The book is a well-told record of the conditions of pioneer life in German Southwest Africa, the hardships and pleasures, joys, and sorrows, of the sturdy farmer folk who were making their fields blossom and were beginning to surround themselves with comforts, when the war cloud arose and all hope of a peaceful life, for years to come, was destroyed. The writer describes the Hereros, gives her own ideas as to the causes of the war, and draws a clear picture of the lives of German colonists in Southwest Africa.

Les Frontières de la Côte d'Ivoire, de la Côte d'Or et du Soudan. Par M. Delafosse. ix and 256 pp., 94 Illustrations from Photographs, and Map. Masson & Company, Paris, 1908. (Price, Fr. 6.)

Mr. Delafosse was the leader of the French party in the joint French-British Commission which delimited the boundary between the French Ivory Coast and the British Gold Coast (1901-3). The work was later extended to include the delimitation of the boundary between the Gold Coast Colony and the present French colony of the Upper Senegal and Niger. The incidental journeys occupied nearly three years and involved over 3,000 miles of travel. The author gives in the form of a diary a great deal of information relating to many things, such as river navigation, forests, soils, elephants and other varieties of game, the villages, some of which were very large, and the characteristics of many tribes. Not a few of these peoples have made considerable advance in their kind of civilization

and seem to live in comfort. The photographs were taken by the author and finely illustrate the work, which is a worthy addition to popular literature relating to West Africa.

Parlamentarische Studienreise nach Deutsch-Ostafrika. Von Oberamtsrichter Kalkhof. 148 pp., and 19 Photographic Reproductions. Dietrich Reimer (Ernst Vohsen), Berlin, 1907. (Price, M. 2.)

This book adds another to the list of those written recently by German officials or members of the Reichstag giving impressions of the African colonies based upon personal observation. All of these books are worth reading. They give the views of men of affairs who are called upon to deal with the practical aspects of the colonies and who have made investigations of their own to be helped thereby to deal more adequately with colonial questions.

This book is one of the shortest and best illustrated of them all. It is written somewhat sketchily. It has not the solidity of narrative and the rich aggregation of facts that have characterized some of the other books but, on the whole, it is a valuable contribution to the series. It adds to the volume of evidence that Germany was wise to develop a colonial policy; that the once decried German East Africa is destined to a great future and that her highlands will some day be the home of thousands of German colonists.

Judge Kalkhof believes that the south of the colony and especially the district of Lindi may be counted among the best parts of it. He attributes the slower development of Lindi to the fact that it is remote as yet from regular steamship communications with Europe. Its rich soil and its young but flourishing plantations of sisal hemp, cotton, and cocoa palms promise much for the future. The author visited all the coast settlements, saw the colonial farmers among the mountains of Usambara, studied the German stations on Victoria Nyanza, and is enthusiastic over the remarkable development upon which they have entered. He gives an effective description of the journey over the British railroad from Mombasa to the great lake and criticises the policy that has made the German outposts on the lake dependent upon the British rail communications with the sea. In fact, the lion's share of the freightage of the Uganda Railroad is now derived from the German interests on the lake. The author is naturally in favour of a vigorous policy of railroad development. It is such testimony as he presents in this book that has moved the Reichstag to make fairly liberal appropriations this season for the extension of the Usambara and Dar es Salaam—Morogoro lines.

Ice Formation. With Special Reference to Anchor-Ice and Frazil. By Howard T. Barnes. x and 260 pp., Illustrations, Folder Plate, and Indices of Subjects and Names. John Wiley & Sons, New York; and Chapman & Hall, London, 1906. (Price, $3.)

This book will be helpful to all who are interested in engineering problems in which ice is a factor or who wish to become more familiar with the various phases of ice formation. The author shows that to the hydraulic engineer the question of ice formation is of vital importance:

> What presents itself during the summer months for consideration is nothing to what must be met during the winter months, when ice is forming rapidly, and ice bridges, dams and shoves may change the whole character of the levels and channels in a single night. Rivers are thus known to have been turned entirely out of their course into new channels during a winter of unusual severity, and in some instances the reversal of a rapid is of yearly occurrence.

Dr. Barnes, who is Associate Professor of Physics at McGill University, Montreal, has had special opportunities for studying the difficulties which the ice causes in the St. Lawrence River in spite of the fact that the temperature of the water "never varies more than a few thousandths of a degree from the freezing-point even though the temperature of the air may be 30° or 40° lower." He discusses the three kinds of ice—surface ice, anchor ice, formed in the bed of a river, and frazil, which consists of small individual crystals at the surface.

Frazil causes most trouble. It is formed in rapids, takes refuge under surface ice, in the quiet water below them, and adheres to its under surface. Thus the ice becomes thicker and thicker until it often chokes the channel of the river and causes a flood. Frazil also clogs machinery and thus interferes with the use of water power at Montreal.

By using the Callendar platinum resistance thermometer, Dr. Barnes was able to make observations of great accuracy as to the conditions existing when frazil and anchor ice are formed. The results of his temperature observations are among the most important in the book. He treats of the natural processes of heat transferance, the physical constants of ice, the various methods of determining ice structure, water temperatures, and other questions useful to students of the subject.

The remainder of his book is devoted to an exhaustive study of anchor ice and frazil, and the interference of the latter with the use of water-power machinery. He believes that "a thorough understanding of the laws underlying the formation of ice will lead to methods, as it has already done in part, which will so temper the effects of ice in our northern rivers as to render them no longer a bar to the full development and utilization of our vast water powers."

The World's Peoples. A Popular Account of Their Bodily and Mental Characters, Beliefs, Traditions, Political and Social Institutions. By A. H. Keane. xii and 434 pp., 270 Illustrations from Photographs, and Index. G. P. Putnam's Sons, New York, 1908. (Price, $2.)

Dr. Keane's aim was to present in a volume of moderate size a clear and comprehensive picture of the people of the world as they exist to-day. It was a task requiring much compression, for the subject is vast and room had to be made also for an exceptionally large number of illustrations. In spite of the narrow limits, however, Dr. Keane has given an edifying and adequate treatment to the great subject in all its broader aspects. Only one who is a master of the subject could do this, and then only by avoiding debatable topics and limiting detailed treatment of primitive ways to the more important savage peoples. The book deals with the established facts of anthropology and is a very interesting and profitable discussion of man as he is to-day. Hundreds of truth-telling photographs reënforce the text. There is a place for this popular account of the human race written with literary skill and scientific judgment.

La France, Tableau Géographique par V. P. Vidal de la Blache. Pp. viii–366. 4to. Hachette et Cie., Paris, 1908.

Aside from the illustrations and some very fair maps, the chief merit of this ponderous volume consists in broad margins and a certain number of blank pages. The text, after careful reading, leaves two impressions; one, of what Hamlet calls "Words, words, words"; the other, of admiration for the author who has

performed the wonderful feat of converting the French language, naturally clear and logical, into a jumble like that of a cloudy metaphysical work in German. Not content with an accumulation of truisms without parallel in number, Mr. Vidal de la Blache has enveloped these in a fog of ornamental and explanatory phrases.

The book is geographical in the broadest sense of the word. To give an approximate idea of what it purports to be we translate from the preface:

> The history of a people is inseparable from the country that people inhabits. We cannot figure to ourselves the Greek nation elsewhere than around the Grecian Sea, the Englishman elsewhere than on his island, the American elsewhere than in the vast expanse of the United States. It is the purpose of these pages to explain how far this is the case with the people whose history is incorporated with the soil of France.
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> In France the relations between man and the soil bear the stamp of antiquity and continuity which is original. At an early day human establishments appear to have acquired there a character of permanence; man remained there because he found, together with the means of subsistence, the materials for his buildings and his industry. He has thus led, for long centuries, a local life that slowly became impregnated by the juice of the soil. An adaptation resulted, thanks to the habits and customs transmitted and kept up on the sites where they had arisen. It is a fact, often observed in our country, that the inhabitants have from time immemorial succeeded each other in the same places. The levels of springs, calcareous rocks suitable for construction and defence, were originally points of attraction, that were scarcely abandoned in subsequent days. At Loches we see the castle of the Valois on Roman foundations, resting, in turn, on tufa with grottoes that may have been primitive abodes.
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> With us man has been for a long time the faithful disciple of the soil, hence the study of this soil will contribute to enlighten us on the character, habits, and tendencies of its dweller. In order to obtain precise results this study must be thoroughly reasoned—that is: it must connect the aspect of the soil of to-day with the nature (composition) of its geological past. Let us not fear to injure, in this way, the impression received from the outlines of the landscape, from the topography, the contours of the horizon, the outward appearance of things. On the contrary, the understanding of the causes renders their co-ordination and harmony more enjoyable.
>
> In the descriptive sections of this book I have endeavoured to reproduce a physiognomy that has appeared to me as at once varied, attractive and engaging. I should desire to have succeeded in fixing some of the impressions conceived by me while traversing in every direction this so deeply humanized country, which is at the same time not degraded by civilization. In this country the mind is solicited by reflecting thought, but it constantly turns back to the sight of its fields, its mountains and seas, alternately smiling and imposing as to a source of causes.

This is a specimen of how the author expresses his ideas all throughout the book. What he probably means to say is that man is inseparable from nature, and that the condition of nature goes back to and was prepared in periods anterior to the existence of mankind. If these ideas were properly carried out and substantiated by the material which the author certainly commands, the book would be as new as invaluable. A lengthy introduction follows this preface. The only thing clear about it is the title. It reads, "Geographical Personality of France." We may discern that this "Personality" is the outgrowth of a great number of influences, named, placed in relation to each other, but without system or coördination. There are positive data but they are so shrouded and their developments so constantly shifting, that we never arrive at a satisfactory conclusion. Besides there are not unimportant omissions. In his attempt to trace the lines of early migrations, Mr. Vidal de la Blache treats of the forests as mere impediments and completely forgets the importance of hunting as a means of subsistence for primitive peoples. The forests of Germany, for instance, were for early mankind as much of a resource and a guidance and even more so than the arable lands, and the French forests were as useful to the original Celts as treeless expanses on which a very limited agriculture could be sustained. Of the importance of fishing where great water-courses or the ocean permitted the author seems to have no idea. In indicating the routes by which tin may have reached central and

western Europe, he ignores the fact that tin also reached southern Germany and Switzerland through Italy and Idria, and since it is his tendency to place much stress on the penetration of France by human currents of German origin in former times, he should not have lost sight of this interesting, though newly discovered fact.

When we turn to the subsequent Chapters or rather "Parts" of the volume we are confronted by what the author calls "Regional Description." We are, therefore, entitled to find in it a description of France by geographical sections according to the vague indications expressed in the preface. The vagueness is richly represented and carried out with great thoroughness. Fact, so ardently looked for by the reader and possessed by the author in abundance, is lost in sounding phrases. Let us take, for instance, what he says about the "Site of Paris":

Between the forests occupying the sands of the heights and the gravels enclosed around Paris by river-branches, are seen intervals (expanses) that always were open, sunny and more or less protected from overflows. On the south the slimy plateau with calcareous subsoil of Villejuif, exceeding by 60 mètres in height the plateau of the Seine, intercalates itself between the masses of timber that stand yet in the Brie, and those of the Hurepoix. Quarries and subterraneous galleries perforate it. Sheets or rugs covered by crops expand still over it to the gates of the capital. On the north between the forests of Bondy on one hand and those of Montmorency and Carnelle on the other, we soon see rising a dry and fertile platform that joins itself to the platform of the Valois. It was these miry and porous expanses which, ere the Brie had divested itself of its timber, directly contiguous to the great bow of the Seine, allowed the existence of a grouping of population; they are what formed that nucleus of crystallization which is the rudiment of every human society. Man found there easily and at the same time, food and material for constructions, that is, the requirements for stability and increase. It was easy afterwards for the populations who settled there, to improve, little by little, the various advantages of the places where they had made their home. The meanderings of the rivers, the sinuosities of hill-sides, openings in the timber offered numerous new combinations to their ingenuity and their selection.

We translate as literally as possible and would only add that the author forgets to include in his elements of first attractiveness, that of security, of safety for abode, which was just as important in the earliest times as any of the others mentioned.

Further quotations are useless, the whole book is written in the same manner. It is descriptive, full of hints at facts, but without salient data. No definite characteristics; a would-be geography without the idea that geography is an exact science and that, while it manifestly must draw within its compass other branches of science and render them subservient to its aims, these should be treated with equal consideration to concreteness and clearness of exposition. To reduce geography to a dry tabular representation in which figures play the principal part, is certainly not the way to present it, but to diffuse it into mere description without the aid of positive fact is an equally erroneous and far more hurtful extreme. This extreme has been, unfortunately for what he *could* have done, the line which Mr. Vidal de la Blache has followed. A. F. B.

The Continent of Opportunity. The South American Republics—Their History, Their Resources, Their Outlook. Together with a Traveller's Impressions of Present-Day Conditions. By Francis E. Clark. Fleming H. Revell Co., New York, 1907.

Five *months* spent in "study" of *eight* South American Republics and in travelling fifteen thousand miles by sea authorize Mr. Clark to thrust upon a benevolent public an utterly worthless volume, poorly illustrated and, furthermore, inspired by religious proselytism of a rather blustering nature. To point out the errors and misstatements in regard to history, ethnography, geography

and present conditions of the countries the perambulating preacher has infested would be a waste of time. They are too numerous and the character of the work is beneath mediocrity. The conceit of the author in pretending to present in this volume anything but a display of ignorance and incompetency goes beyond the patience of those who know the subjects of which he professes to treat. His book is one more contribution to an unnecessary literature already far too extensive in English. A. F. B.

Dalmatia. By Maude M. Holbach. New York, John Lane, 1908.

Eureka! Dalmatia is rediscovered! Naturally, such a feat could only have been performed by Britishers, the woman illustrating the man's photographs by a text in English and the man illuminating her writings by very handsome pictures. It must be said that the book is a most attractive one, especially for British tourists. Its design is evidently to direct the travelling Englishman to Dalmatia and to infuse in him the regret that those Austrian shores, once marked by the preponderance of the British flag, were turned over to Austria for safe-keeping. There is, through the whole book, a suppressed sigh at the fact of Dalmatia not having become British. In the chapter on Lissa two pages and a half are consecrated to a wail over the time when the English infested the picturesque shores of the Adriatic; for the naval engagement of Lissa in 1866, one of the most remarkable sea-fights on record, there is barely a line.

These are failings which may be pardoned. British literature on foreign countries is, like history written by British authors, an attempt to describe what is seen through a mist. But it must be said that, in spite of its insular failings, this book deserves, from a literary standpoint, unusual commendation. It is very well written and exceedingly well planned. The author presents, perhaps, too fair a picture of the Dalmatians. But it is pleasant to read, once in a while, a fair and evidently honest and disinterested judgment by tourists. The dark sides of Dalmatian character are not alluded to, probably because the writers did not come into close contact with the people.

The description of Dalmatia is superior to that of Baedeker. The latter gives a matter-of-fact directory. The authors of this book impart more information of a certain kind (chiefly historical) and make it more valuable to the reader through the personal element which pervades the volume. It may be said that the book has the merit of being, without pretension, geography very much alive; the author does not claim geographical elaboration, there are no statistics, no dreary accumulations of so-called data and assumed facts, the map adjoining the volume is but an incidental, though a valuable, guide, and the geographical importance of the work consists in the lifelike descriptions, in the historical indications that run like an unbroken thread through the whole fabric, and the persistent blending of nature, as a basis, with the highly interesting historical past of the country. The author introduces us into a wing, so to say, of art which is not generally known. Her judgment on such subjects is not always correct, but it is always honest and we are seldom misled by her intentionally.

Taking advantage of the proximity of Dalmatia to the territory of Montenegro and of the splendid road made by Austria towards Cettinje, the writers also visited that little and less known spot of southern Europe. The account of the people and country is only the result of a flying visit, but it is always a glimpse at something hardly ever seen or mentioned, and as such an agreeable corollary to the rest of the volume. A. F. B.

La Louisiane sous la Compagnie des Indes. 1717-1731. Par Pierre Heinrich. E. Guilmoto, Paris, 1907.

This work is, of course, devoted to historical topics. And yet it is not without connection with geography in the sense that it is a contribution to knowledge of expansion of geographical information on the countries between the Mississippi and New Mexico between the years 1680 and 1733. The story in itself is a dismal one. It is a tale of daring exploration by devoted and competent individuals in the beginning, afterwards the lamentable picture of ill-use of their achievements by a speculative enterprise utterly corrupt and which held France under the spell of an almost inexplicable hallucination for nearly a quarter of a century. The "Compagnie des Indes," a creation of the unprincipled promoter John Law, mismanaged Louisiana and the Mississippi Valley in general from 1717-1731, and succeeded in nearly destroying everything that the great minds of La Salle, d'Iberville and Bienville had prepared for French colonization. The author imputes to English intrigue many of the mishaps that befell the French colonization in the Mississippi basin; but even if his incriminations are just, it must be confessed that the French attempts at colonization were so ill-managed and made with a human material so poorly selected as to incite almost any neighbour to take advantage of their continuous errors. It required courage on the part of the author to plunge into the sickening mire of incompetency, criminal carelessness and corruption which constitutes the material for the history of Louisiana of that period and present from it a picture of woe and warning, showing at the same time the truth of the oft-repeated statement, that the French are no colonizers. And yet it was not the fault of the French Government, except in so far as it fell into the snares of the British adventurer Law. Both Louis XIV and, in the first years of his reign, Louis XV managed, according to Dr. Heinrich, colonial affairs far more judiciously than the interregnum of the Regency. The main fault, however, lay in the character of the French nation, of the people that afterwards blamed its rulers for what the people had committed, in opposition to wise governmental measures.

Whenever the subject of a book involves the relations of several nationalities it is, in order to be impartial, imperative for the author to consult sources drawn from the documentary material of all the peoples interested, as far as available. This the author of the present book has failed to do. He completely ignores Spanish literature and Spanish documents in general. He would have done well to consult them. Detailed and often monotonously dragging as he is in his treatment of French and English material, it would have been helpful had he learned something of the fate of La Salle's companions from late publications by the Archæological Institute of America (1892) and from the work of Father Espinosa forming the first part of the "Cronica Apostolica y Serafica" (1746) and from the second part by Father Aricibita (1792). A study of Spanish sources on the conditions of New Mexico about the year 1700 would have given him a more sober, because a truthful, idea of the conditions of that Territory and its Spanish colonists than the phantasmagory of mineral wealth believed in by the French. Speaking of the expeditions of Bénard de la Harpe to the Bay St. Bernard, he complains about the unreliable geographical information the French possessed. By referring to the third series of the "Documentos para la Historia de Mexico" he would have found that the Government of Spain was just as badly informed, relying, as it did, at Mexico upon the utterly unreliable authority of Sigüenza y

Góngora. His identification of places in the Southwest would have been modified or materially strengthened had he consulted Spanish manuscript or printed books which are by no means of difficult access. Lastly, his knowledge about the expedition of Pedro de Villazur to the Platte River and its disastrous end (1720) would have become much more profitable to him in a geographical way had he consulted the publications of the Archæological Institute, which are based largely, if not exclusively, upon Spanish documents.

In his descriptions of parts of the West the author is usually fair. So are the French reports upon which he relies. To what extent his depreciation of the book of La Hontan is justified remains yet an open question. More than one traveller in former times has been accused by superficial critics of unreliability and gross mendacity, while subsequent investigations proved him to be at least partly in the right. It is very easy to condemn, from the depths of a commodious armchair, men who have written in the field and from the field and under the impression of an environment to which the critic would be very careful not to expose himself.

On the whole, the book is, within very narrow limits, an accession of some value to French-American literature. While not indispensable in the face of the formidable material already extant on Franco-American colonization, it is not utterly uncalled for. But it should have been made more concise. The frequent repetitions of tales of misery and disgrace are superfluous and finally tire out the reader. Everybody knows that French colonization in North America has been a failure, and there is no need of making it a hackneyed theme by constant recurrence to its gruesome detail. The author of the book, however, has done right and rendered a positive service to historic truth by placing the responsibility of the failure where it belongs, namely, with the French people. A. F. B.

The Pistol and the Revolver. By A. L. A. Himmelwright. 157 pp., Illustrations, Appendix and Index. J. J. Little & Co., New York, 1908.

Explorers and others who go out into the wilds will find in this volume clear and concise information and instruction relating to these weapons and how to use them. The book may be carried in the pocket.

Illustrated Pocket Guide to Melrose, Abbotsford, etc. (The Land of Scott.) By Ralph Richardson. Third Edition. John Bartholomew & Co., Edinburgh, 1908.

A convenient pocket guide with driving, walking, and cycling routes and a fine route map. The guide was originally prepared for an excursion of the British Association of which the writer acted as leader. It exactly fills the need of tourists in the Scott country.

The Montreux-Bernese-Oberland Railway via The Simmenthal. By Alfred Ceresole. English translation by E. de Steiger. 78 pp., many Illustrations from Photographs, and a Map. Art. Institut Orell Füssli, Zurich. (Price, 6d.)

One of the finely illustrated handbooks in English issued by Füssli under the general title of "Illustrated Europe" and revealing by text and beautiful pictures what may actually be seen of the Alps along this electric railroad line between Lakes Geneva and Thun.

Pioneer Days on Puget Sound. By Arthur A. Denny. Edited by Alice Harriman. 103 pp., 36 full-page Plates, and Index. The Alice Harriman Company, Seattle, 1908. (Price, $2.00.)

A handsome reprint of a rare book, published in 1888. It is said that no copy of the original book was ever offered for sale. The people of Puget Sound and especially old residents of Seattle cherish the book because it is concise, clear, and correct as to the numerous data relating to early days in the Puget Sound country. Mr. Denny went there in 1852 when he was thirty years old. He saw the early stages of development, was identified in a large way with the rapid growth of the region and was one of the founders of Seattle. Perhaps no one was so well qualified as he to record the annals of those days and his work is appreciated all the more highly because of his "earnest endeavour to state nothing but the facts."

Bibliotheca Geographica. Jahresbibliographie der Gesamten Geographischen Literatur. Bearbeitet von Otto Baschin. Vol. XIII, 1904. xvi and 560 pp., and Index of Authors. Gesellschaft für Erdkunde, Berlin, 1908.

The present volume of this annual bibliography, covering practically the whole field of geographical literature and cartography, has just appeared. The usefulness of the annual is enhanced by the fact that the number of years between the time of publication and the year reviewed has gradually been reduced from seven to four. It is to be presumed that efforts will be made to diminish the gap by two years more. Dr. Baschin, the compiler of this fullest of geographical bibliographies, is to be congratulated upon the admirable success that has rewarded his incessant efforts to cover this large field.

Kolonial-Geschichte. Von Dietrich Schäfer. (Sammlung Göschen.) Second edition. 151 pp., G. J. Göschen'sche Verlagshandlung, Leipzig, 1906. (Price, 80 pf.)

A condensed history of colonizing enterprise from the days of the Greeks and Romans to the latest exploits of the great nations in Africa, Asia, and the Pacific. The introduction treats of the materials for this branch of history, colonizing movements as a factor in history, the motives for colonization, and its varieties, as trading, agricultural colonies, etc. The author then traces the history of Greek and Roman colonial effort from 1400 B.C., similar movements among European states in the Middle Ages and in later times to the Napoleonic wars; and the last section of the book is devoted to the great development of colonizing achievements in the nineteenth century. The value of a colony is still often measured by the profit it brings to the mother country, but through widening of international relations other lands as well as the mother country often share the advantage of colonial trade. The subject is treated in a philosophic spirit and the book is full of suggestion as well as of fact.

Physical Geography. By M. F. Maury. Revised and Largely rewritten by Frederic William Simonds. 347 pp., Many Illustrations, and Index. American Book Company, New York, 1908. (Price, $1.20.)

Maury's Physical Geography, in its day, was one of the leading text-books of geography, but the revisions of the original work were not entirely adequate. The Maury-Simonds Physical Geography, now before us, follows the plan of the

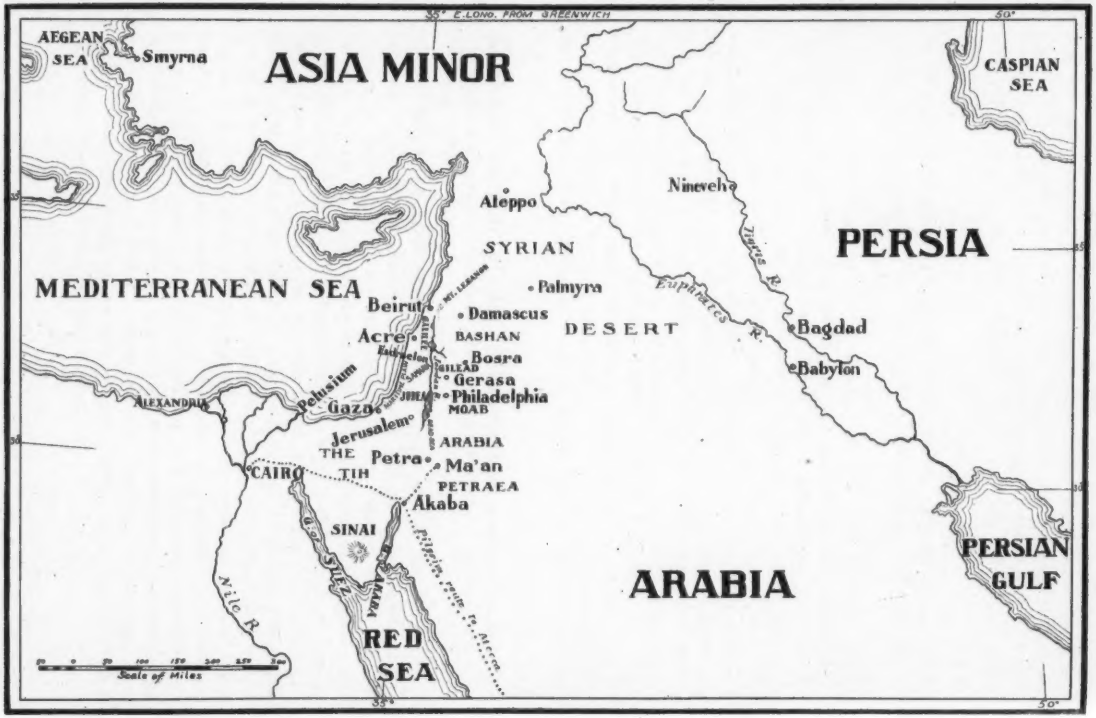
older work as far as possible while at the same time the text is thoroughly modernized. Maury's quarto volume gives place to a smaller page, making it more convenient to handle. The book will undoubtedly be classed among the best of the elementary physical geographies. The illustrations and maps are especially good and up-to-date. The chapter on earthquakes, for example, is illustrated largely by views from the California earthquake of 1906 and the great Japanese earthquake of 1891. All the illustrations are particularly good and adequate.

A Woman's Pleasure Trip in Somaliland. By Frances Swayne. xii and 172 pp., 61 Illustrations, and a Sketch Map. John Wright & Co., London, 1907. (Price, 4s.)

Books on Somaliland have dealt chiefly with big game shooting, exploration or military campaigns. This small volume, however, is an account of three winter months that a woman spent pleasantly in Somaliland. In other words, Miss Swayne describes the Protectorate as a holiday resort. She was the guest of her cousin, Brig. Gen. Swayne, who conducted two arduous but successful campaigns against the "Mad Mullah." After the Mullah had been driven out of the country it was possible to invite ladies to visit it though Miss Swayne was the only white woman in the vacation party which travelled south from Berbera to the Golis Range. A sojourn of some length was made among these mountains. The author gives a description of camp life and the Somalis, from whom she experienced the utmost kindness. That a white woman, even with the special advantages that Miss Swayne possessed, may now really enjoy a trip into the interior of Somaliland shows that things are moving in that once inhospitable region.

La Suisse au XX^e^ Siècle. Étude Économique et Sociale. Par Pierre Clerget. 268 pp., 2 Maps, and 4 Diagrams. Armand Colin, Paris, 1908. (Price, 3.50 fr.)

The economical development of the leading countries has, in recent years, been the subject of a number of books but this volume is the first of the kind in French, at least, to be given to Switzerland. A country which seems satisfactorily to have solved such questions as State monopoly of the sale of alcohol, postal cheques, workingmen's insurance, and other social problems, which are still in the stage of discussion elsewhere, has great interest for other nations. Prof. Clerget of the High School of Commerce, Lyons, has written a most informing book on the Swiss people. After a chapter on the psychological conditions that have helped to shape the development of Switzerland, he treats of the three natural regions of the country, the distribution of population as influenced by geographical conditions, the financial situation and institutions, agricultural and industrial development with an analysis of labour conditions, communications by land and water, and makes a study of the Republic's commercial relations abroad. The book shows us the Switzerland of to-day as a land in which most interesting social problems are being worked out.



MAP OF SYRIA AND SURROUNDING COUNTRIES.